

SHELTERSKINSPEED:

Last Bastion for the Reclusive Brooding Man

by Paul Kevin Matelic

B.S. Lawrence Technological University June, 1991

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE MASTER OF ARCHITECTURE
AT THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY, SEPTEMBER 1994

© Paul Kevin Matelic 1994, All Rights Reserved.

The author hereby grants to MIT permission to reproduce and to
distribute publicly paper and electronic copies of this thesis document in whole or in
part.

Signature of Author

Paul Kevin Matelic

Department of Architecture, 20 July, 1994

Certified by

Wellington Reiter

Assistant Professor of Architecture

Thesis Supervisor

Accepted by

Rosemary Grimshaw

Chairman, Departmental Committee on Graduate Students

ROTC
MASSACHUSETTS INSTITUTE
OF TECHNOLOGY

OCT 11 1994

LIBRARIES

SHELTERSKINSPEED:
Last Bastion for the Reclusive Brooding Man

by
Paul Kevin Matelic

Abstract

The dream of the twentieth century man is disappearing into the realm of the next millennium. His world is both far-reaching and unreachable. Technological transmission has begun to collapse global distance and scale, creating alternative and deceptive work-home relationships. The middle ground of suburban America, created mostly by the automobility of the common worker, is increasingly evolving into a devoid and meaningless setting. Nowhere is the dreamer or the mystic so alone then within the conformity and uniformity of the social norm.

"Shelterskinspeed" describes a design direction based in the study of warehouse/homes for the alternative individual. A large volume architectural space utilizing steel, glass, and concrete in raw industrial bays is the new stage for the old modern man. A homestead setting for work, living and emotional play transcends the notion of the "house as a machine for living" into the "house as static vehicle."

The spirit of this thesis lies trapped within the tangled forest of a depressed cynical psyche. His home is his castle and his imaginary defense against the demons of his mind. Reclusive and brooding, the new world man ponders his fate and existence from this last bastion of security. He wears his home as the quest knight resides in his armor.

**Submitted to the Department of Architecture on July 20,
1994 in partial fulfillment of the requirements for the
Degree of
Master of Architecture**



S h e l t e r s k i n s p e e d	1
A b s r a c t	2
A u t o p s y P r o t o c o l	3
C O N T E N T S	4
I n t r o d u c t i o n	5
T e c t o n i c S h e l t e r	6
T e c t o n i c S h e l t e r	7
T e c t o n i c S h e l t e r	8
T e c t o n i c S h e l t e r	9
T e c t o n i c S h e l t e r	10
M e t a p h o r i c S k i n	11
M e t a p h o r i c S k i n	12
M e t a p h o r i c S k i n	13
S c h i z o t h y m i c S p e e d	14
S c h i z o t h y m i c S p e e d	15
S c h i z o t h y m i c S p e e d	16
S c h i z o t h y m i c S p e e d	17
S c h i z o t h y m i c S p e e d	18
S c h i z o t h y m i c S p e e d	19
S c h i z o t h y m i c S p e e d	20
D i a l e c t i c S h e l t e r s k i n s p e e d	21
S S S C o n c e p t S k e t c h e s	22
S S S B a s t i o n S i t e P l a n	23
S S S S i t e D e t a i l	24
S S S A r m o r S k e t c h	25
S S S S i t e S e c t i o n	26
S S S - A A D M o d e l	27
S S S - A A D M o d e l	28
S S S - A A D M o d e l / D D D D e g r e e s	29
S S S - D D D I n t e r i o r	30
S S S - D D D I n t e r i o r	31
S S S - D D D I n t e r i o r	32
S S S - D D D M o d e l	33
S S S P l a n A p r o n	34
S S S P l a n A p r o n D e t a i l	35
S S S P l a n H u l l 1	36
S S S P l a n H u l l 1 D e t a i l	37
S S S P l a n H u l l 2	38
S S S P l a n H u l l 2 D e t a i l	39
S S S P l a n G l a c i s	40
S S S P l a n G l a c i s D e t a i l	41
S S S - D D D G l a c i s V i e w	42
S S S S k i n S e c t i o n N o r t h	43
S S S S k i n S e c t i o n S o u t h	44
S S S A r m o r e d S h o u l d e r	45
S S S A r m o r e d S h o u l d e r S e c t i o n	46
S S S V u l c o n D e t a i l	47
S S S V e h i c u l a r S p e c i f i c a t i o n	48
B i b l i o g r a p h i c T e x t	49
B i b l i o g r a p h i c I m a g e s	50
E p i t a p h i c	51

Introduction

The "last bastion for the reclusive brooding man" reflects this author's current cynical opinion of both architecture and life. With a majority of the population caring little about the merits of design, architecture in America today has become a luxury. Businessmen and developers control direction, scope, and character of most architectural projects. Meaning and timelessness is replaced by lease-span and write-off economics. Homogeneous mediocrity describes the state of the American dream of single-family detached suburban residence. Neighborhood organizations and local city governments enforce contextual stability and style in the guise of uniform design principles. Comprising 30 percent of housing starts, home over the last three decades has been increasingly "mobile and trailer", . Has automation, technical mechanization and mass production/consumption insulated us from the land? and the house from its site? The individual's home used to be his castle, but what is it today?

Our culture is disseminated and determined by the filter of television. Programs such as "A Current Affair" and "Hard Copy" have become revered oracles, sensationalizing mundane life and distorting reality. The plight of O.J. Simpson falling from grace captured 90 million viewers live. The 50th D-Day anniversary was portrayed as the most important and decisive battle of the Second World War with no mention of the 20 million Russian casualties bearing the brunt of the German military machine. The warriors who experienced the perilous theater of war and atrocity are mostly dead or forgotten. The NBA, NFL, NHL, WWF and Major League Baseball serve as surrogate modern day battlefields. Americans escape within the dreams of Hollywood, and the home becomes a slightly expanded sarcophagus focused on, not the hearth, but the cable box and monitor.

The character and definition of the reclusive and brooding man is one of contempt for society. He possesses a fragile warrior psyche with a split spirit on the verge of greatness and self destruction.

Dreaming of better worlds, real or imagined, he becomes the characters of memory, actual or fictional. He views death either as an internal ghost lurking within or as a homicidal/suicidal experience. He curses the cruel joke of life, precariously avoiding but eventually ending in death. Terrific and tragic, he stands on a silent platform (fight the war --- **fuck** the norm). He is what is good and what is evil in all men.

TectonicShelter

When chased by a bigger dog, a small dog will sometimes take refuge in a thicket, forcing his enemy to fight at a disadvantage or to go away. The most simple refuge temporarily deters survival of the fittest. Throughout history, shelter's purpose is to support life and to protect from danger. From the womb to the final container of death, we live in protective shelter.

The concept of shelter began as early men burrowed into the earth, seeking protection from the elements. As desire for mobility increased, the cave dwelling evolved into the temporary hut. The primitive hut, built of wood sticks and animal skins, served as refuge at night but by day allowed the easy movement of nomadic tribes. As time passed, common language, currency, and values fostered the formation of adjacent homesteads into villages and towns. Fixity of location and dependence on destinations began to change man's view of himself in nature.

For the purpose of this thesis, I have looked at the following shelter references:

- **Palmanova** - a fortified inclusive city-state
- **The Chicago School of Architecture** - marking the development of skeletal construction methods
- **Industrial factory architecture** - the first to employ the use of repetitive long span bays in the warehouse
- **Villa Savoye** - the house as a machine for living; Le Corbusier's tribute to the machine and modern man
- **Eames Case Study House #8** - symbolic of post war America through an experimental modern statement of architecture
- **Davis House #2** - initial explorations in the warehouse/home

Palmanova

Attachment to place and ownership of land gave rise to the definition of property lines. Proprietorship of land meant that one needed to take steps to defend his property. Feudal lords dictated boundaries through political relationships, military alliances, and the strength of men at arms; hence, the birth of fortification. Vertical walls encased cities and castles and served a dual purpose: as a membrane between city and countryside, and as defense against

muscle-power and the gravity propulsion of missiles. The fortified city functioned as an entity growing from its gates, pulsating into farmlands in times of peace, and closing up in times of adversity. The design of the walls withstood attack for centuries until 1494, when Charles VIII, using mobile siege guns, annihilated Italian castle walls in a matter of days. Clearly, with this new development, what had been seen as attack and defense needed to be rethought.

By the 1530s, the Italians developed the new city defense in the formation of artillery fortification. A geometric form punctuated by bastions on the exterior face defined the edges of the city. The reconfigured walls successfully accommodated firing of cannons and defense from enemy artillery. Fortress design changed in section as well. The walls took on a low sloped profile extending from an earth embankment called the glacis. The form of the city changed also with the redefinition of its walls. The city as a diagram had pervaded history since 500 AD. Views of their city-state appeared on coins as pure objects set within a circular form. However, it was not until the late sixteenth century that Italian artillery planning realizes the ideal city, leading to the formation of the city-fortress of Palmanova.

Composed of nine sides, Palmanova (as first laid out in 1593) was designed, sited, and internally organized based on military concerns. A central hexagonal piazza, marked by a tower, was home to commanders and loyal troops and accessible by only three direct lines to the bastions. As a last resort, the central plaza could be cordoned off and defended from the rest of the city. A civic zone defined the area between the outer walls and the center as a means for control. Mounted police patrolled the perimeter roadway to prevent internal sabotage. Nine bastions, fortified with cannons at corners, eliminated exterior blind spots. Palmanova was a representative world, containing all possible needs within its walls.

The Chicago School

Destroying a large portion of the downtown area, the Chicago fire of 1871 took the image of the city. However, with the immediate prospect of reconstruction, architects and engineers flocked to the city of the "broad shoulders" seeking opportunity and work. The decade after the fire, buildings, characterized by superficial elaboration and ornamentation, were limited to six stories in height. With the

arrival of the 1880s, buildings grew taller; marking the evolution of the skyscraper. The ten-story Montauk building (1882) added new excitement to the city and began the period of the skyscraper. The functional demand for light and an economic demand for height drove development of architecture in the 1880s. The Chicago architects handled these mandates using two opposing methods: masonry construction and skeletal construction.

Masonry construction, concerned with aesthetic expression, used traditional building methods. As these buildings grew taller, exterior bearing walls needed to be thicker. As a result, the amount of light was inverse to the amount of height. The ultimate end for this heavy construction methodology came with the sixteen story Monadnock Building completed in 1891.

On the other hand, skeletal construction still continues today. William LeBaron Jenney began the transition to skeletal construction with the First Leiter Building (1879). The separation of the load-bearing function of the exterior masonry walls from the space enclosing functions was the key concept of skeletal construction. The structure was lighter, faster to construct, and allowed a maximum of light with no restrictions on height. One of the most important contributions of the Chicago School was the developments in skeletal construction.

Industrial Factory Architecture

Growing from the skeletal construction methods, Albert Kahn of Detroit, Michigan redefines the architecture of the factory. The need for typological change in factory architecture was partially caused by Henry Ford's and other auto barons' desire to house assembly-line mass-production under an open and unobstructed roof. The experimental use of steel-reinforced concrete and large scale architectural facility planning changed the factory from mill-house and multi-floor buildings to a large bay, single floor architecture. Steel columns and beams created the deployable bay found in typical industrial houses such as the Dodge Half-Ton Truck Plant (1938) and the Ford Rouge Facility (1917-39+).

Villa Savoye

The decade of the twenties was roaring with the age of machines.

Renewed and relaxed after the First World War, the world was an expanding place. The League of Nations focused attention on both modernism and the architect. By this time, Le Corbusier had earned international respect and been involved with the mechanization of the Soviet Avant-Garde. The Congress International de l'Architecture Moderne (C.I.A.M.) at its initial meeting in 1928 chose Le Corbusier as one of its first members. Also in 1928, he began his commission for the Villa Savoye.

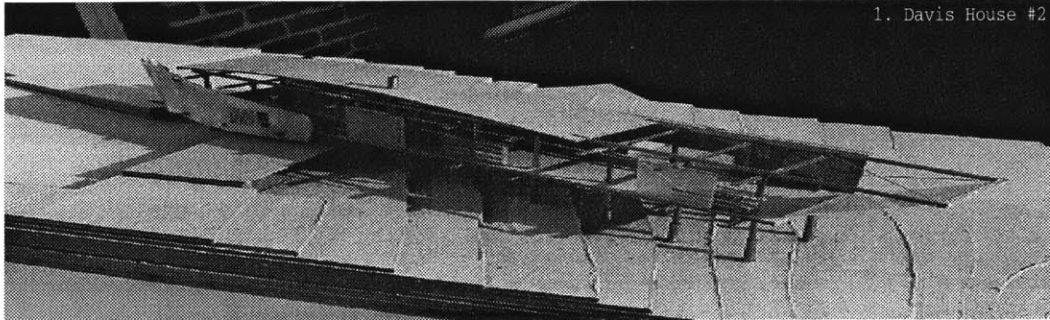
Villa Savoye, intended as a summer house, has achieved fame as a proponent of modernism while retaining classical virtues. Le Corbusier explores the concept of site detachment and geographic ubiquity of the machine and the machine age. The turning radius of the automobile, navigating through pilotis, defines the ground plane. One enters the structure, after washing off the dirt of modern day life, and proceeds up a ramped entry to the main level. Once inside, light and shadows define the spatial qualities of movement up and through the house with continuous viewpoints back from where one had come. The section illustrates the basic division of service and circulation zone below, a piano nobile above, and a celestial zone on top. One can interpret this structure as his ideal city in singular form. His house becomes a machine for living, floating as a ship above the countryside. The view from the deck allows open observation to the world beyond and reflects the optimism of the time.

Eames Case Study House #8

The Case Study House program, initiated by John Entenza of Arts & Architecture magazine in 1945 was comprised of thirty-six experimental, modern prototype homes. The Case Study Houses were designed, and the majority built, between 1945 and 1966, and featured some of the most important architects of the time. The program was aimed at shaping the post World War II building boom toward widespread acceptance of modern and technologically based architecture.

Case Study Houses #8, owned by Charles and Ray Eames, was completed in 1949 on adjoining property to Case Study House #9 at the Pacific Palisades. The Eames house is built as a steel and glass cage, a similar language to their well-known "Eames Chair". Placed within a stand of eucalyptus trees, a double height living space and exhibition space enhances the two level house. The house is structurally organized on twenty foot bays of four inch H columns spanned by twelve inch open web joists. A seven foot six inch planning module

is laid out through eight bays that corresponds to the span of steel decking. The striking character of the Eames case study house #8 is the clean and industrial aesthetic of both the interior spaces and the exterior shell.



Davis House #2

The origin of this investigation comes from an architectural design commission that dealt with the notion and image of the industrial factory/warehouse as a multi-functioning work-studio, retreat bunker, garage, and home. The Davis House #2 was initially conceptualized on a 9 bay format, similar in plan to the direction of this thesis project. The main idea was to give the client an open canvas within which objects could be placed. The objects represent various programmatic functions from kitchen to bedroom to studio. As an aspiring collector of classic American automobiles, the client desired a house structure that could accommodate a vehicular entry directly into the house.

Davis House #2 is approximately 4,500 square feet of open two-story height space. The plan stretches through a sloping, narrow, tree-filled site that ends with a stream slicing the edge of the property. The concept is to elevate the home as a single structural frame of seven bays aligned on the east/west axis. The entry facade greets visitors with a foreboding presence, and functions as a drawbridge connecting to a drive platform. A galvanized steel tailfin at the entry defines an edge to the drawbridge and serves the dual functions of stair enclosure and service lift. An angled grate stretching over a stream signals the end of the residence. The north elevation, a solid edge pierced by retractable decks, accommodates service functions and built-in elements. The south elevation, composed primarily of glass; supports a system of sliding screen panels of translucent fabric and metal, offering privacy when needed. A bowing roof plane rises above the steel frame, creating a clerestory above a second level bedroom area.

MetaphoricSkin

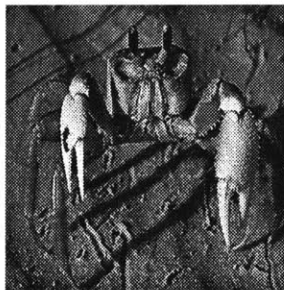
Rigid. Material. Protective. Transparent. Whether it be man-made or naturally developed, skin separates an inner world from the outer one. The ghost crab develops an exoskeletal shell as a protective device, shielding its vulnerabilities from the world. The tank is developed as a thick-skinned vehicle; man's attempt to survive in the battlefield. Our own skin, sheltering the organs and muscles of the body, stretches over an endoskeletal frame. Human skin, however, possesses limited capabilities. Something as innocuous as a piece of paper is able to slice through the epidermal layers. The suit of armor, then, becomes the first layer of artificial skin. An extension of the man inside, armor serves as a rigid protective skin with openings to accommodate sensory qualities of sight and sound. Modern day armor expresses itself in the skin of vehicles. Man's use of machines allows literal and implied transfiguration of himself. The skin of the automobile or the airplane is rigid, unlike human skin, but the windshield, like eyes, allows sight. With developments in virtual travel, real vehicles become obsolete. One can travel great distances while remaining within the architectural skin of his house. Technology renders the notion of skin transparent. The "suit" and skin for the future man is invisible.

M1A2 Abrams - US main battle tank



2. M1A2 ABRAMS

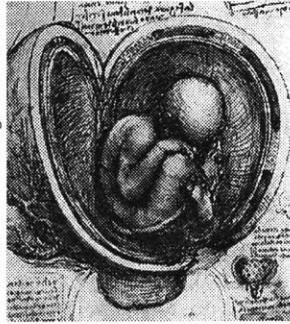
The Ghost Crab - exoskeletal crustacean



3. GHOST CRAB

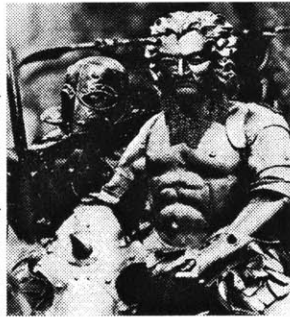
MetaphoricSkinBody

4. Fetus and Linings of the Uterus,



Skin Dissections - the anatomical studies of Leonardo da Vinci

5. MORDRED, Excabilar, 1980



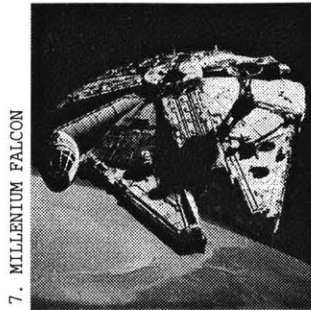
Suit of Armor - man's attempt to shelter himself from destruction

6. 1959 THUNDERBIRD

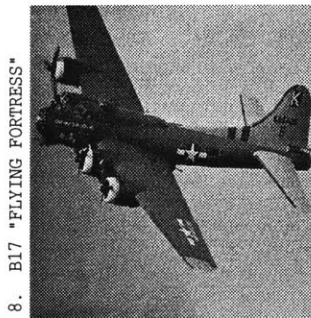


'59 Thunderbird - a classic American Motor vehicle

MetaphoricSkinTranscendence



Millennium Falcon - Han Solo's space vehicle in the Star Wars Trilogy



B17 Flying Fortress - the Allies' main World War 2 bomber



Airshow - the mechanical women of Philip Castle

SchizothymicSpeed

The domestication of the horse first enhanced the mobility of man. Although automobiles ultimately replaced animals as a mean of transportation, the symbolism and terminology of the horse still pervades the vehicles of the twentieth century. Horsepower is a freely used generalized term, without conscious thought of its relational meaning.

Modern vehicles are personalized by model, color, and symbolic name. The phenomenon of iconic identification of a mechanical vehicle reaches its intensity in the 1960s and continues today. Automobile names, such as Mustang, Corvette, Galaxie, Firebird, Cobra, Thunderbird, Stealth, and Viper, evoke a subliminal image, an engaging public consumer interest. Is labeling just a marketing ploy that produces a reaction by the consumer? Or is there something more to the need and desire for metaphoric vehicle humanization? This thesis proposes that there is a personal connection between man and his machine. The vehicle is an extension of himself; it amplifies his surrounds and abilities.



personalized by model, color, and symbolic name. The phenomenon of iconic identification of a mechanical vehicle reaches its intensity in the 1960s and continues today. Automobile names, such as Mustang, Corvette, Galaxie, Firebird, Cobra, Thunderbird, Stealth, and Viper, evoke a subliminal image, an engaging public consumer interest. Is labeling just a marketing ploy that produces a reaction by the consumer? Or is there something more to the need and desire for metaphoric vehicle humanization? This thesis proposes that there is a personal connection between man and his machine. The vehicle is an extension of himself; it amplifies his surrounds and abilities.

10. Schizothymic Toy

Fighter planes of both World Wars symbolize national pride and attributes of power, speed, and aggression.

These flying machines were extensions of the warriors who flew them. During his climb to eighty kills, Manfred von Richthofen became the "Red Baron" by painting the planes he flew a brilliant red.

into hearts of allied pilots, The result struck fear even if they possessed a superior advantage. Before active US involvement in World

War II, a group of independent American pilots, flying Curtiss P-40 Warhawks, collaborated with the Chinese Army.

Eyes, mouth full of glaring teeth, and a red propeller nose adorned the P-40s. They became known as the "flying tigers" and, after two years of conflict with the Japanese, achieved a kill ratio of more than 20 to 1. Japanese "Zero" pilots

came to fear the mercenary vehicles painted with the tiger motif. Artificial personification transcended the man inside the vehicle. These machines triggered strong associations of fear, speed

and death.

Presently, computational technology, faster and world-encompassing, competes with the automobile as the new personal vehicle of the post-yuppie man. Equipped with a modem, people can travel greater distances faster than the fastest airplane or mechanical vehicle. Through the mechanism of electronic mail, one's words in the form of a document or a letter can travel across the country in a matter of seconds to appear on a similar monitor. Speed, then, has come to mean something very different today. Speed is no longer quantified in terms of miles per hour; speed is as fast as the computer can process information. Similar to the symbolic naming of the automobile, one might identify his storage hard drive with an associative name, Trotsky or Vitruvius, or he might assign a figural symbol such as a dog, a lightbulb, or a mustang. Today, the new line of Macintosh PowerBooks are sleek and aerodynamic, known as "the blackbirds", an implicit reference to the high-speed surveillance aircraft, XR-71 Blackbird.

Technological speed will inhabit and convert shelter into a metabolic machine. The individual will be allowed true escape only within himself. We will be the machines and the machines will be us.

The following references define this author's interpretation of "speed" with respect to this thesis:

- **Wheel Estate** - the nomadic life of the trailer and mobile home in America
- **Power Automatic** - development of the automobile from on to in
- **Subdivisions** - automation of society through car culture and its effect on the American city.
- **Static Vehicular/B-2 Stealth** - the "last vehicle" - invisible specter of the night
- **Transmission lines** - the new global interstate highway and re-definition of the work-home relationship.
- **Batman/Batcave** - the psychotic personality of man dealing with the world.

Wheel Estate

In 1920, the novelty of the American automobile was not just the impetus to travel to the campsite but acted as the centerpiece of

the event. With the horseless carriage, city dwellers were able to return to nature, camp, and take family trips. The automobile, over 17 million in America by 1925, becomes a force in the culture and life of all who traveled the roadways. A "roadtrip" begins to take on new meaning. The desire for mobility and for the convenience of being able to stop at a campsite off the highway, with the basic amenities of home, prompts the development of the trailer. The pastime of social interaction with neighbors begins to deteriorate with the early freedom provided by the automobile and mobile home. With the trailer behind, the notion of getting an early start on the road would even break the ritual of Sunday services.

Do-it-yourself campers, retractable tent devices and lavish Pullman-like trailers catered to the nomadic souls. In the 1930s, ad-hoc camping parks sprang up in numerous areas from city to countryside, angering municipal officials and causing zoning limits and ordinances against the new squatters. A negative connotation is still attached to trailer parks as places characterized by un-cleanliness, perversion and crime. In the early 1940s, the travel trailer evolved into the house trailer and was predicted to house half the population of the United States. The early 1960s found the trailer house splitting into two paths: the familiar mobile home and the self-propelled recreational vehicle.

The mobile home today comprises more than ten percent of the total housing in this country. They dot the entire countryside as conceptually mobile but actually static neighborhoods. Typically, pink flamingos mark their entrances, and are satirically named "Almost Florida" or "Sunnyside". Mobile homes are an attempt to live in a vehicular mode, likened to the primal hut, questioning the character and future of hearth and home.

Power Automatic

In the 1930s, the basic shape and body construction of the automobile switches from wood framed carriages to steel formed boxes. The car sheds its material connection with the carriage and horse but still holds on to the basic concept of riding on the beast. Moving the front axle from the front of the vehicle to back in line and behind the engine is a simple but powerful design decision. This move pulls the wheel assembly into the vehicular shell and allows the beginning of beneficial streamlining. Additionally, early experiments in integrated frame technology and unit-body construction

merge the structure with the body. By the 1950s, automobiles make an important metamorphosis from on to in. The automotive designer is able to focus on the vehicle, as a whole rather than the singular components of power plant, chassis, and body.

Automobiles become lower in profile as design is directed to the comfort of the passengers. The car begins to "hug" both its occupants and the road. The radio and the automatic transmission become standard features along with a list of other power assisted controls, such as doors, locks, windows, steering, brakes, and retractable hardtops. Tail fins, referencing P38 lightning and flight, emerge from the rear fenders. The tail lights symbolize the speed, thrust, and flame trails of jet engines and rocket ships. The directional shape of the car leads to the front being associated as face. Headlights are viewed as eyes and the grille is articulated as a monstrous and animalistic personification of its name or model.

Subdivisions

Personal mobility, brought about by the evolution of the automobile, allowed for locational freedom, away from both work and the center of the city. The construction of the civil defense roadway system, initiated after the Second World War, formed into today's "Inter-state" highway system. Families living in new subdivisions sponsored by the "GI Bill" could drive many miles to work and return to park the car in the new attached single or two-car garage. The forward dream and open countryside of America were just steps and a door away.

The growth of the urban environment takes root in the freeways and highways created to interconnect remote areas of cities. These new rivers of constant motion grow exponentially and fragment the city into different regions and territories. Workers and families leave the city for the promise of better living in outlying edges; this resulting in both the expansion and decentralization of the city.

Static Vehicular/B-2 Stealth

In essays describing speed, Paul Virilio talks of vehicles. His premise is that the last vehicle is truly a static one. It does not move to destinations but causes destinations to move to it. The static vehicle achieves its mobility through non-physical means. The

automatic teller machine brings the bank to the individual at locations around the world. Video conferences capture and freeze the individual, projecting him in terms of frames per second.

The B2 Stealth fighter and bomber are the ascended spiritual development of the flying wing. Started in the late 1930s, the flying wing was a vehicle design of form following function. It was what it had to be and nothing more. Jack Northrop sought to reduce the airplane to its purest state and removed the tail and fuselage. During the early stages of the Second World War, Northrop proposes the B36 as a long range bomber in the case of the possible fall of Britain. Its design sprang from the early prototype N-M1 but, for political and strategic reasons, production ceased. After the war, the United States government commissions Northrop to develop the B-49, a larger version of the B-36. However, as the first nine planes neared completion, the government haltes construction, shelving Northrop's dream and he would never recover.

Lack of speed, a quality inherent in its basic design, plagued the flying wing. Returning to the top secret hangers in 1980, a friend wheeled Jack Northrop into the hangers of the company he once founded to see the dream of wing now technically feasible. The blueprints he saw were of the bomber of the future, the B-2. The B-2 was a stealth aircraft, able to avoid detection by radar. It still is not a high speed aircraft, top speed at only 500 + mph, but is virtually invisible at night. Cooled engine exhaust removes heat tracking, and the basic shape, construction materials, and details remove its signature from electronic tracking. Mobility and speed are now secondary to invisibility. The stealth aircraft becomes static and achieves mobility through non-mobile means.

Transmission Lines

The process of sending transmissions is different from the notion of receiving them. People have been indoctrinated as receivers since the beginning of amplified communication. Electronic highways, initiated by the telegraph in the 1830s, have been around for more than a century. In 1897, Marconi pioneers the radio signal, an invisible wave which is emitted and travels within a frequency range of 10 kilohertz to 300,000 megahertz. Subsequently, communication becomes carried by electromagnetism and can be "broadcast" to the masses. The individual and his family begin to be grouped within the broad dissemination of static noise. Scheduled nightly activities grows

with "tuning-in" to listen to programs such as "The Shadow", the symphony, or Roosevelt's fireside chats during the American depression of the 1930s. The spectacle of the talking film and household deployment of the television in the 1950s debases the one-to-one connection with the book and even listening to the radio. A spoonfed experience of sight, sound, place and characters confines creative imagination into a high speed pathway focused on the projection. The world is now accessible and enters the family room through the TV. News, sports, soap operas and movies are projected upon the "couch potato" as the human becomes the display screen. Black and white surreal images turn into color images of jungle green and blood red as the reality of the Vietnam war is grimly reported. The distance of the world is equated to electricity, antenna, reception and the turn of a channel .

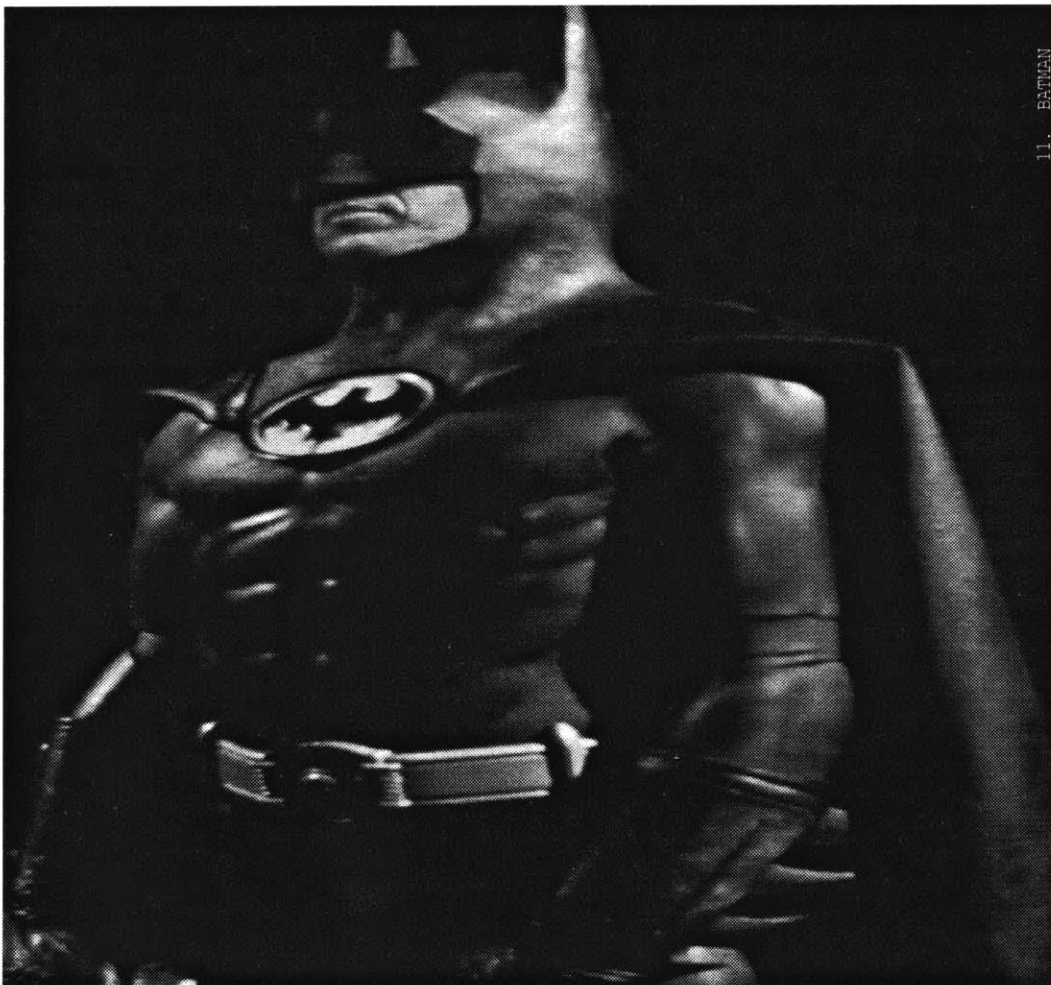
Active transmitters and passive receptors are merging together. The telephone is a datum that combines reception and transmission into a single device, and its assimilation into society foreshadowed things to come. The computer and monitor combines the telephone with the television to create an active experience. Video phone technology merges sight and sound with communication, thus interconnecting dual sensory perception interactively. Today, we can travel and experience from stationary positions through the encoded 1s and 0s of virtual and digital language. We can relax at the beach, equipped with cellular phone, powerbook or thinkpad. Global replaces and lessens the significance of the mobile. Work will be more feasibly undertaken from the house/home. Man will finally be able to return to the earth, leaving the ubiquitous subdivisions behind. The notion and attachment of the city will take on new and positive meanings. The experience of place and "face to face" will be strengthened as the roots of our culture (or will they?).

Batman / Batcave

The "mask", the "man" behind the mask, the "man" behind the man behind the mask. The dark knight strikes to put to right only what he wants to. He deals with the world on his terms, and only his terms. The world comes to him as he stands on the edge of oblivion. Dead souls are calling him. Dead souls entrench his spirit and emotions. He is on the verge of greatness and of tragedy. He walks a precarious path that simultaneously ascends towards spirituality and descends into the maniacal. Real freedom, he believes, resides

within the bullet. Real pain, he feels, is found festering in the living. "Birth is but a forgetting" forcing rediscovery in life. Death stands as a warrior sentry positioned to guard against singular destruction of the many bodied life. He curses the hour he was born and is transfixed with the hour of his death. He is a deadly performer on the secret theater of silent monologue.

The brooding man of tomorrow will be able to hide behind a mask of technology and communication. He will reside within the speed of his vehicle as a "superhero" extension of himself. His vehicle will shape and skin the boundaries of his hermetic self. His house developed as vehicle creates the last bastion of his fortified self. He is sheltered within an ominous filter of armored skin. He equates himself as king creating a kingdom to reign reclusively alone. Shelter skins speed transcends and transforms architecture into the mask.



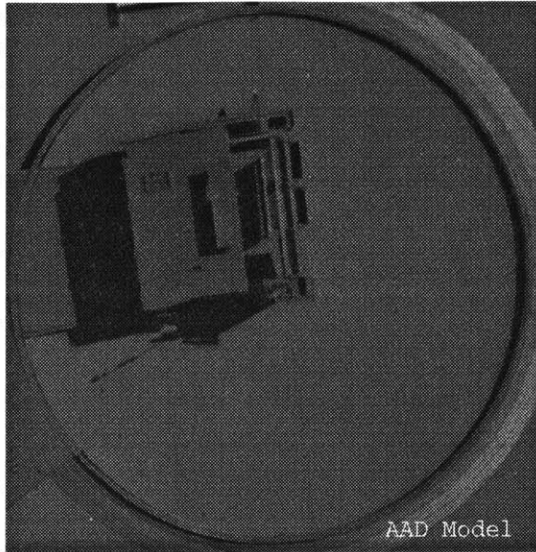
DialecticShelterskinspeed

The design strategy for shelterskinspeed resolves itself as a collision of opposing dialectic forces. Home-office; Static-mobile; site connected-site detached; armored shelter-fortification irrelevance; heavy concrete-curtain wall attachment; structural outer skin-internal skeletal frame; inner space void-inhabitable outer skin;square plan-directional character.

The "home" site description for the Reclusive Brooding Man can be found almost anywhere. For the purpose of this thesis, the site, orientation, climate and hypothetical setting is located in the Midwestern United States. A four acre parcel of land adjacent to the interstate serves as a territory defined by county property lines within the mile countryside grid. Site edges are further defined by train tracks, a stream, and transmission lines. An automobile access road with drawbridge, transversing the moatlike stream, serves as a site entry . Isolation is cast silently against motion as a circular elevated platform, 290 feet in diameter, serves as inner site within site. The limestone platform is a modern day bastion with electronic and video surveillance securing his personal defensible zone. The raised warehouse/home sits detached as an actor on the stage or spacecraft on a landing pad. The house is registered to the bastion center by a tower element attached to main body of the structure. A ramped approach fronts the face of the vehicle as a formal entrance. A lower apron below the house structure allows for regular and daily interaction with the site and outer world beyond but can be completely shuttered as required. Automobiles can park, be stored, and be serviced in this area. Mechanical and energy systems are fragilely housed below the main vehicular structure.

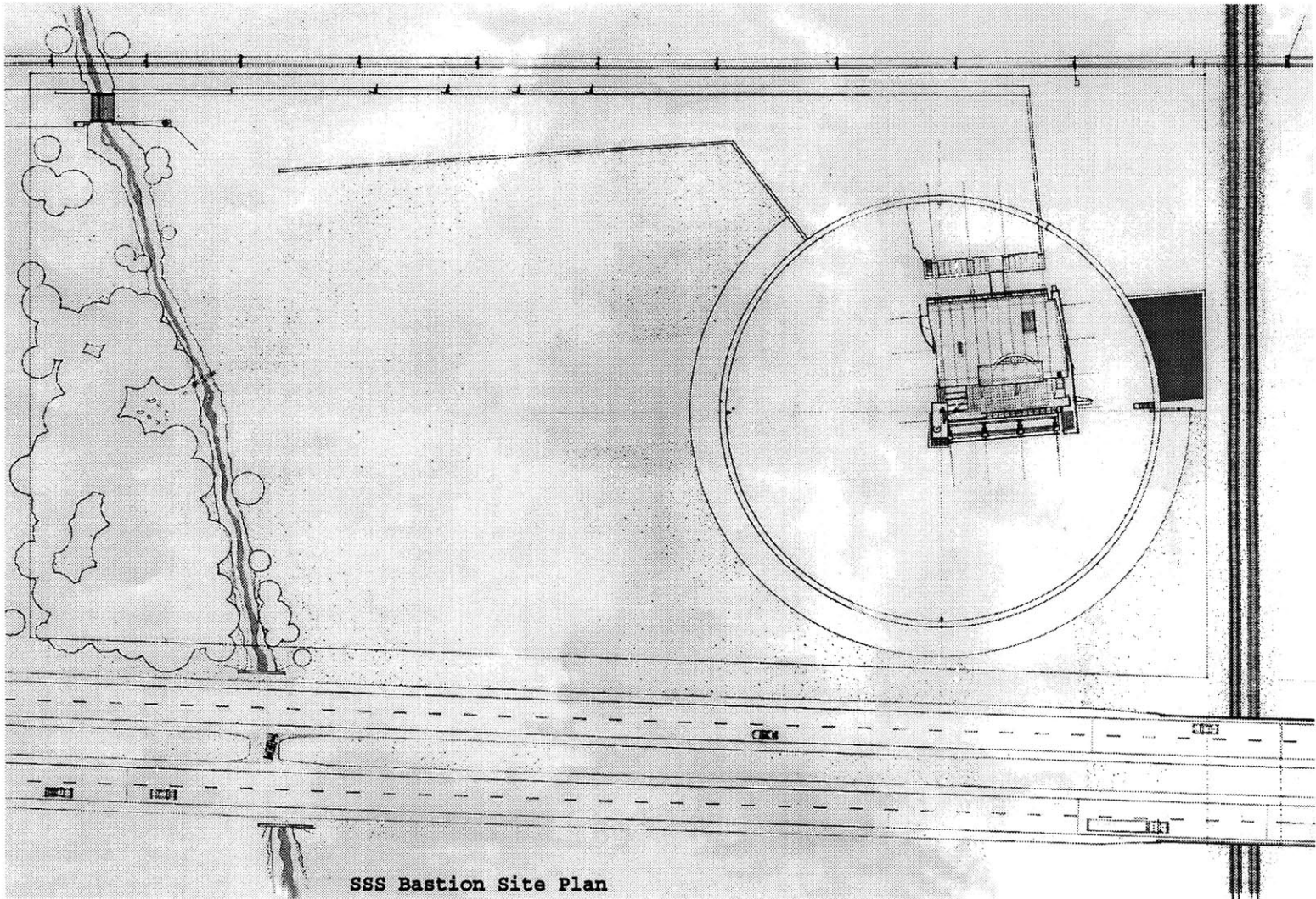
The notion of a warehouse as place for the storage and collection of objects is a conceptual design strategy, applicable to this house. A raw open volume of space within an articulated shell creates the industrial character of this residence. A structural frame composed of 9 bays, 24' square and 20' high, is elevated above the ground as a steel cage. A 4'-6" composite floor is joined at and to the lower beams of the steel cage and becomes a stable and artificial ground plane. An inner "territory" zone is defined by 2' thick precast concrete curtain walls and attached at the top and bottom of the steel structure. An outer steel skin is attached to structural cage beams piercing thorough the concrete walls. The outer skin zones house permanent program features and define the shape and vehicular nature of the architecture. A perforated entrance facade wall is aligned to the site glacis entry ramp. Light is allowed to fall

within and is experienced walking on the facade drawbridge. An armored shoulder, meditation space, extends out to align with the entry facade on the east side of the house. The 12' single floor projection automobile 20mm Vulcon rotating below. The exposes the inner wall with vision end of the encased by a surveillance registers shifted axis bastion. The receiver and connecting to highways with

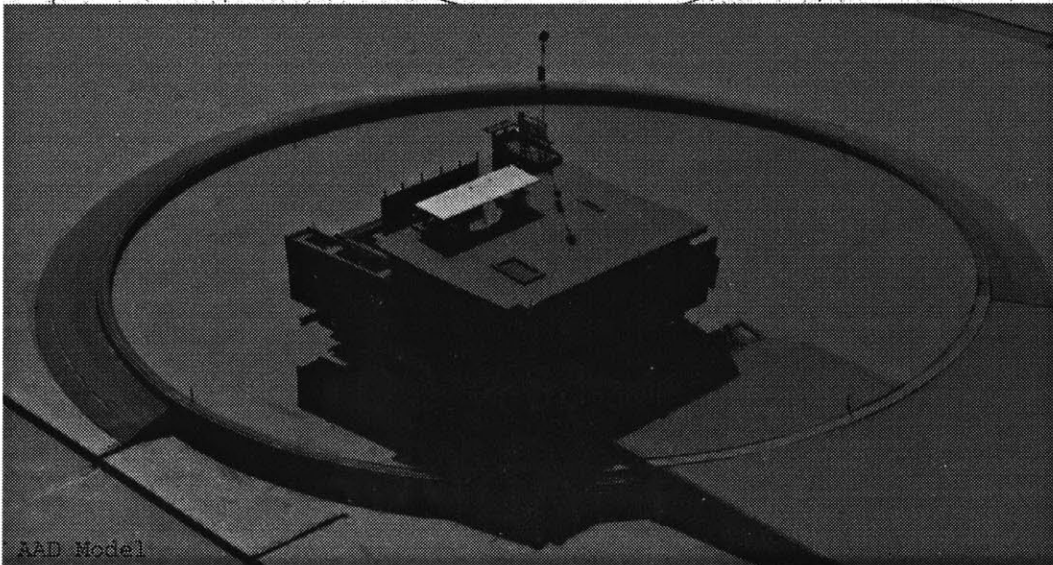
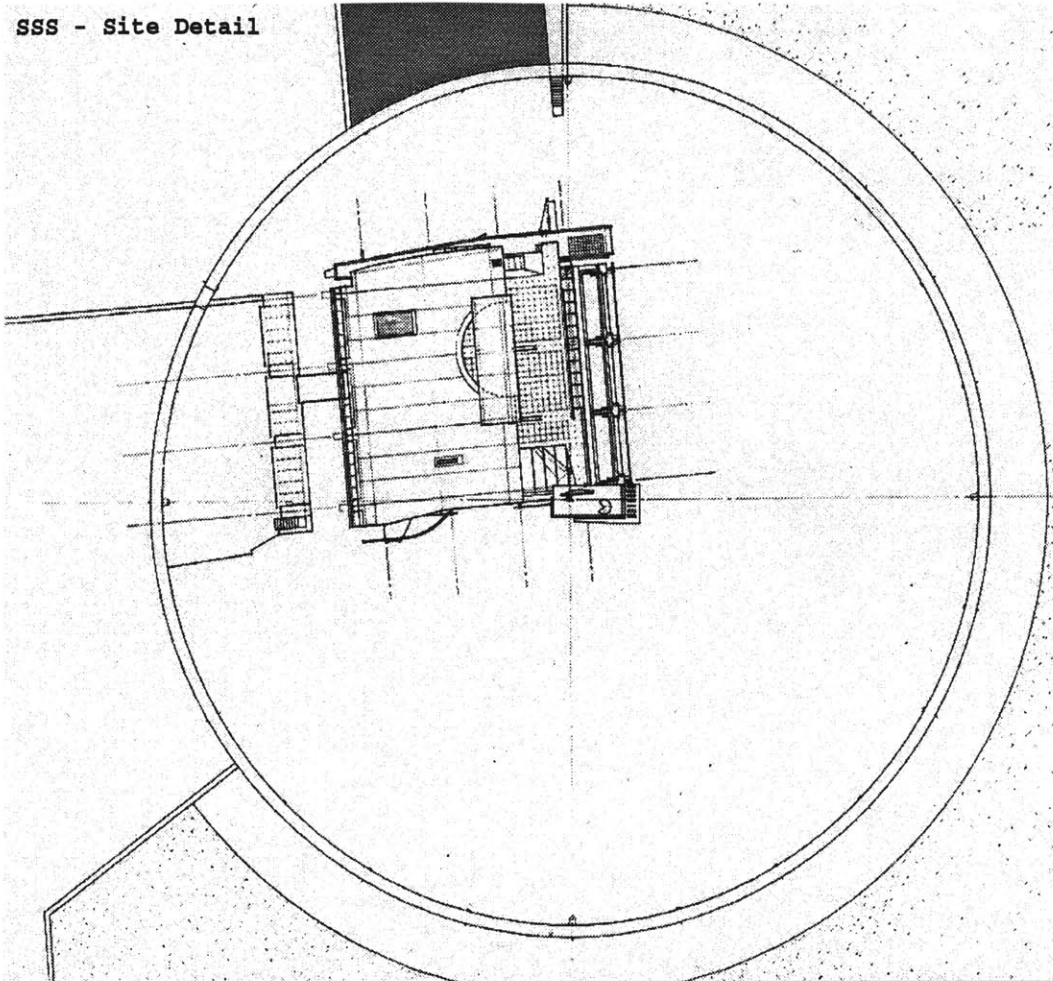


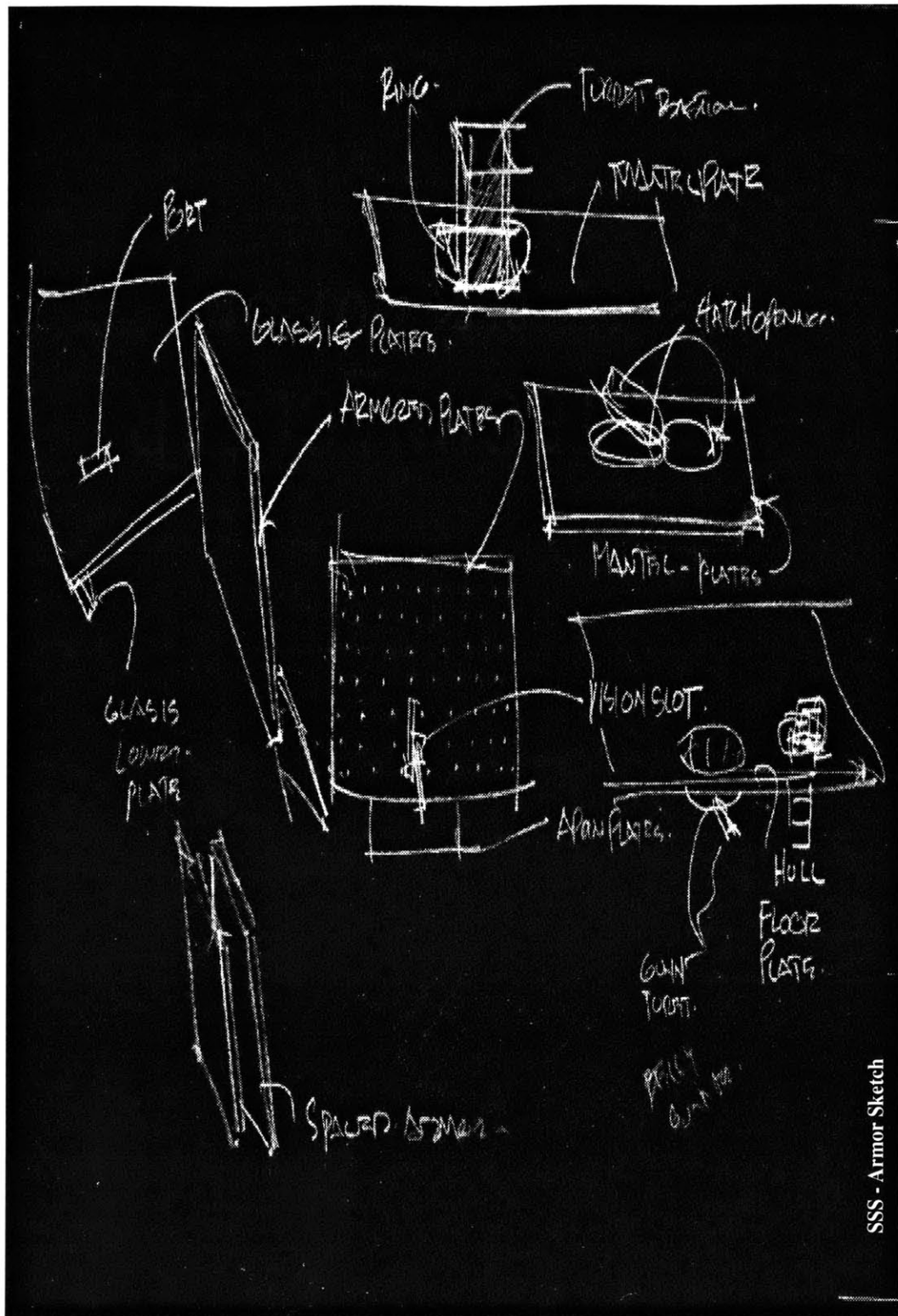
guards the access drive with a cannon encased in a belly turret hung western house face full height of the and is punctured slots. The southern west face is 3-story tower, that itself to the of the raised tower acts as transmitter, the information telecommunications

antennas. Additionally housed within the tower are security and artificial intelligence systems. A circular steel stair can be lowered to the apron floor, providing connection to the upper glacis deck. The south side of the house is equated to the back or "tail" of the vehicle, and functions as sun deck facing the interstate highway. The deck is accessed through large tracked doors housed in the inner concrete wall. The deck is an extension of the inner floor but can retract turning into 3 defense privacy shields. The east side or "flank" of the structure becomes a 12' wide two-story addition to the base cage. The flank fronting the train tracks, runs the length of the building and extends to frame the south decks. The flank is divided into two floor levels with kitchen, dinning, toilet, and studio located on the lower level. The second level houses a master bedroom area and studio. The flank spacial extension is divided into two halves with stair access linking the lower apron entry area and upper areas. A suicide barbecue bridge extends from the kitchen and is equipped with a ladder for access to the upper glacis deck. The upper celestial deck is tucked under the 3/4" armor skin of the glacis roof. From the deck, activities are visually linked to the inner space with a clerestory under glacis skin. Partially covered by a steel wing canopy, a hot tub and toilet, electronic billboard, and the upper level of the surveillance tower define the floating sky deck.



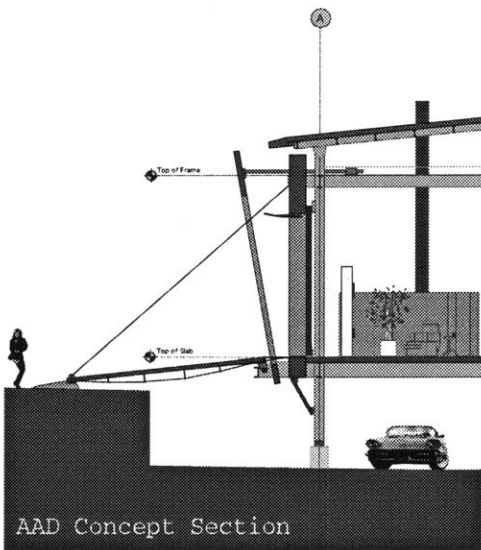
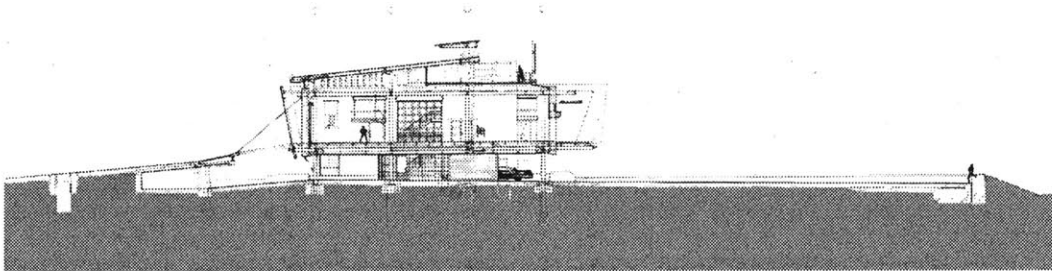
SSS - Site Detail



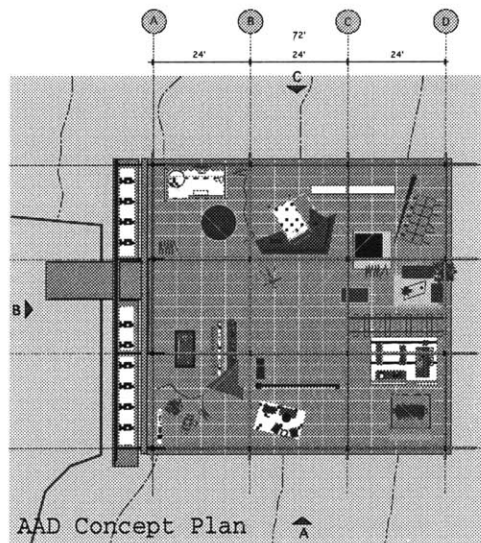


SSS - Armor Sketch

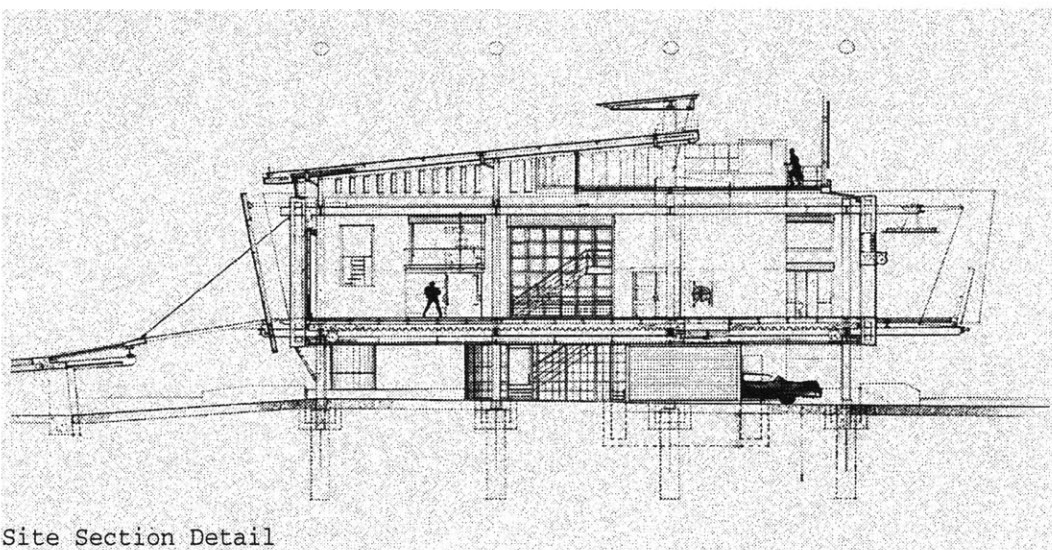
SSS Site Section



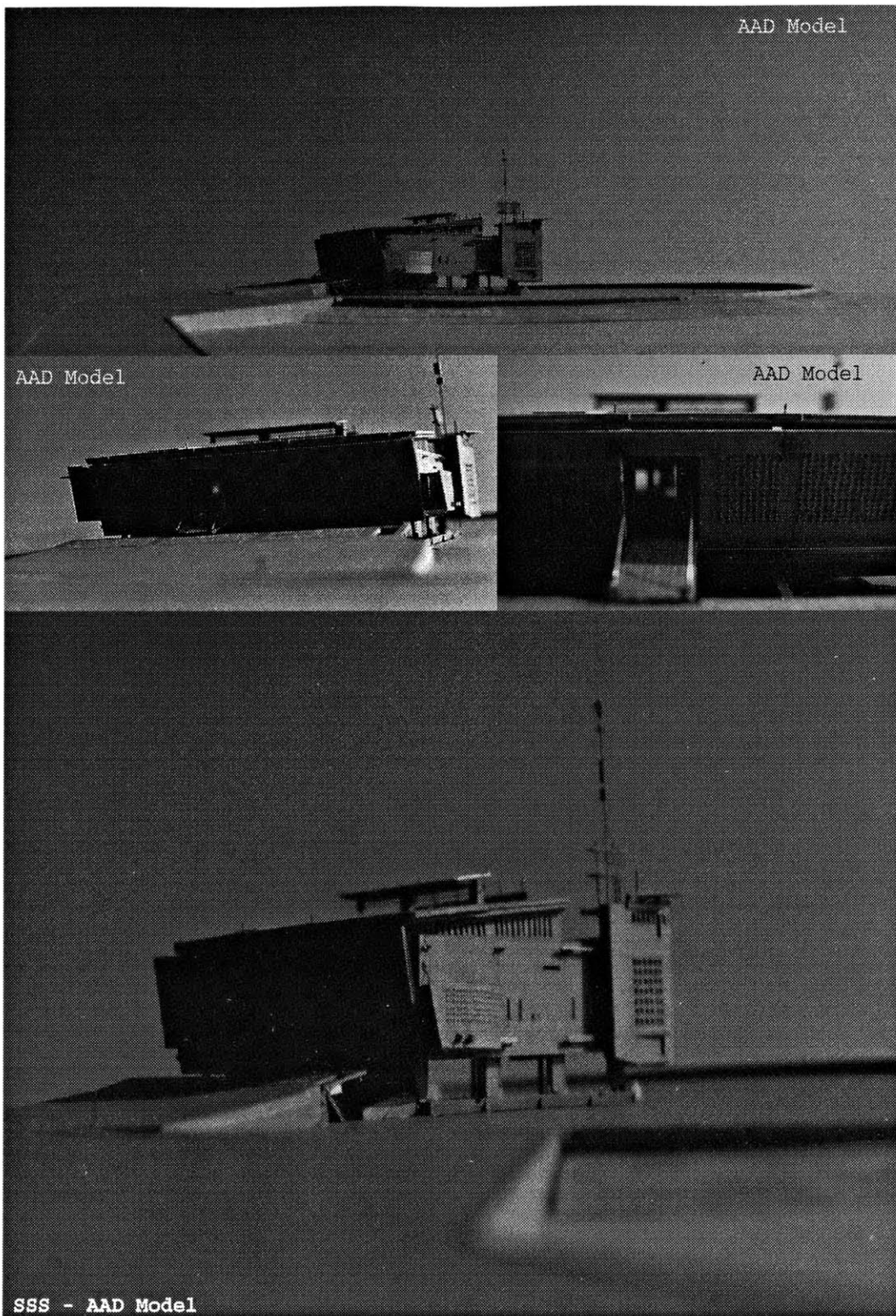
AAD Concept Section

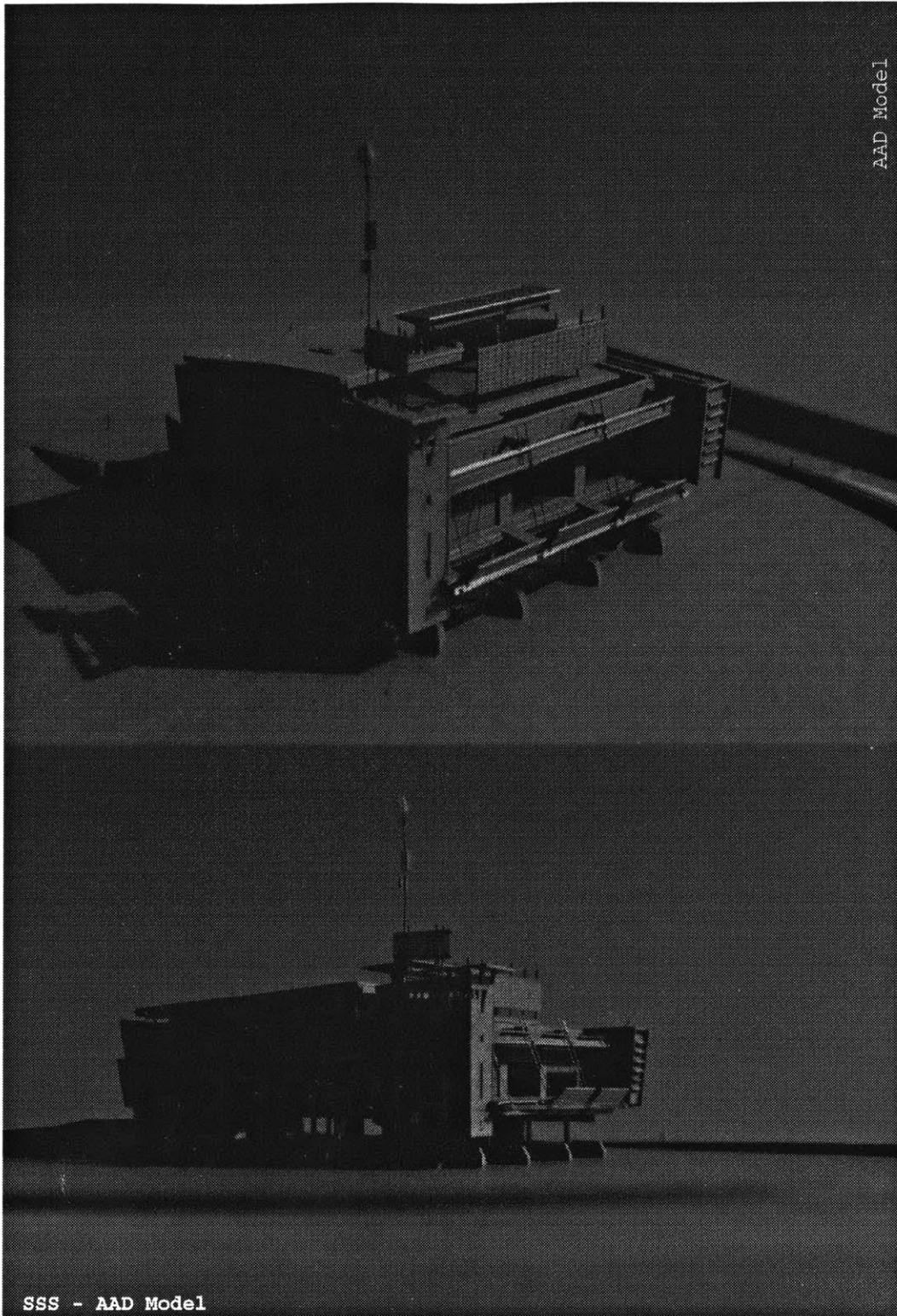


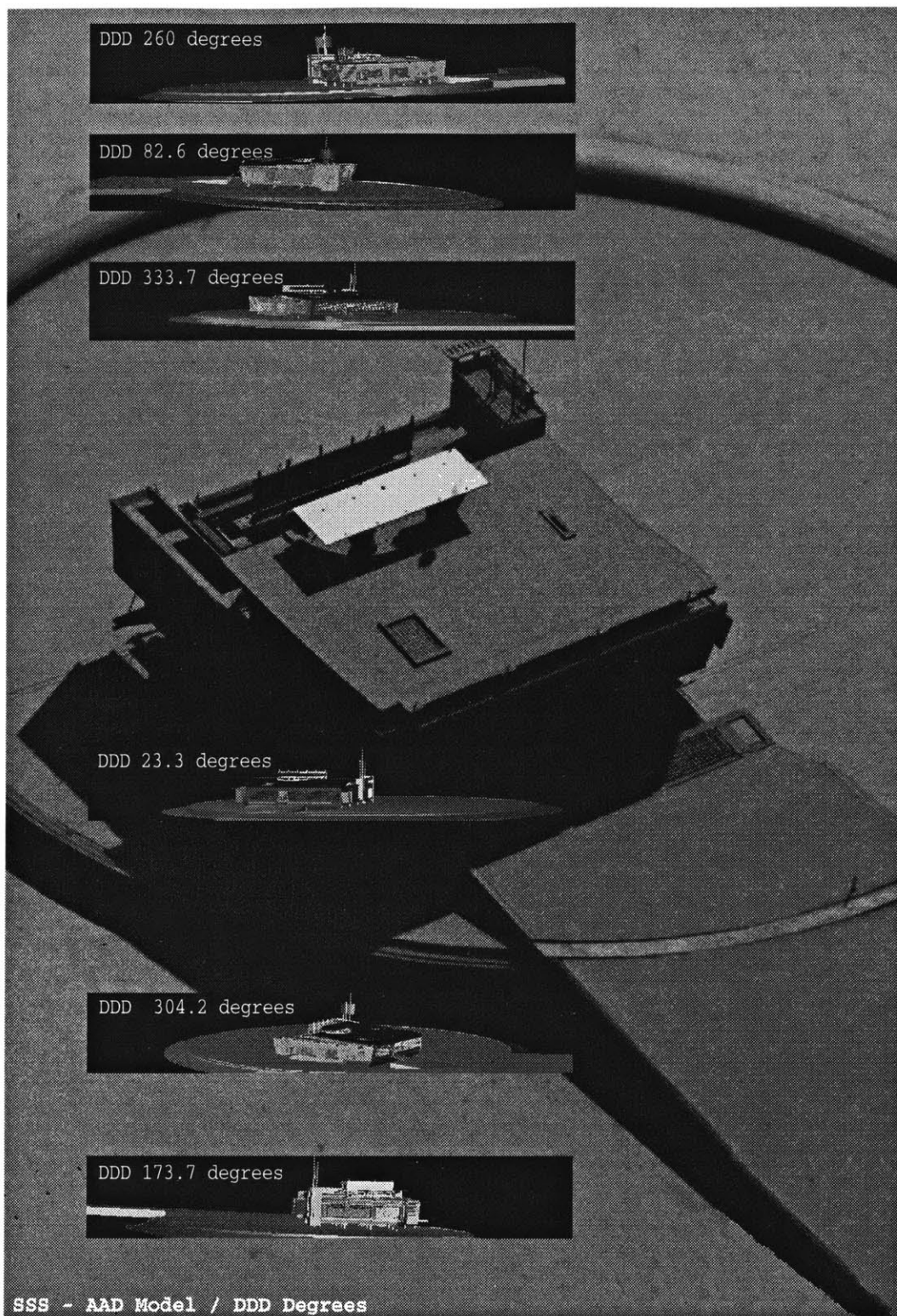
AAD Concept Plan

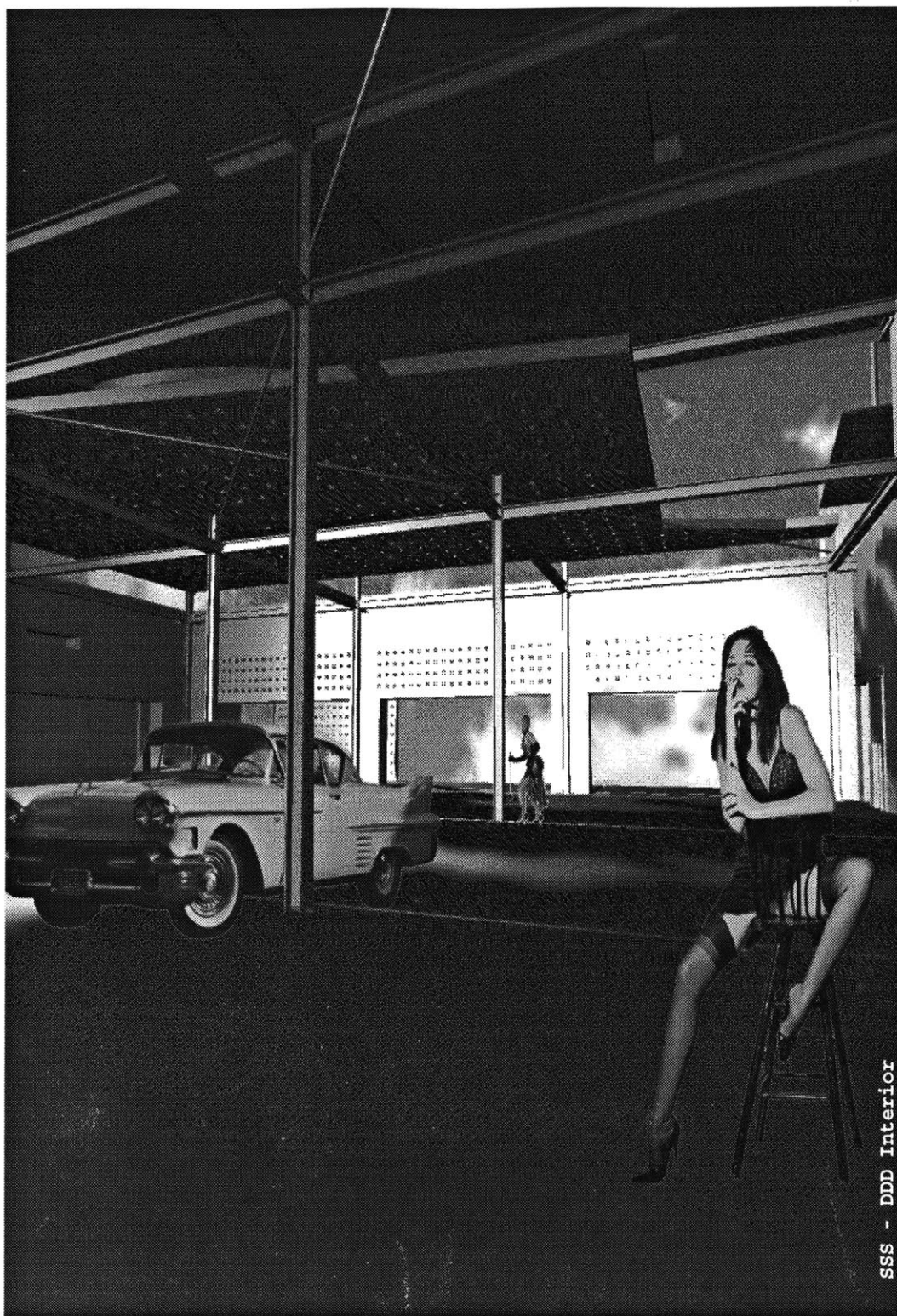


Site Section Detail

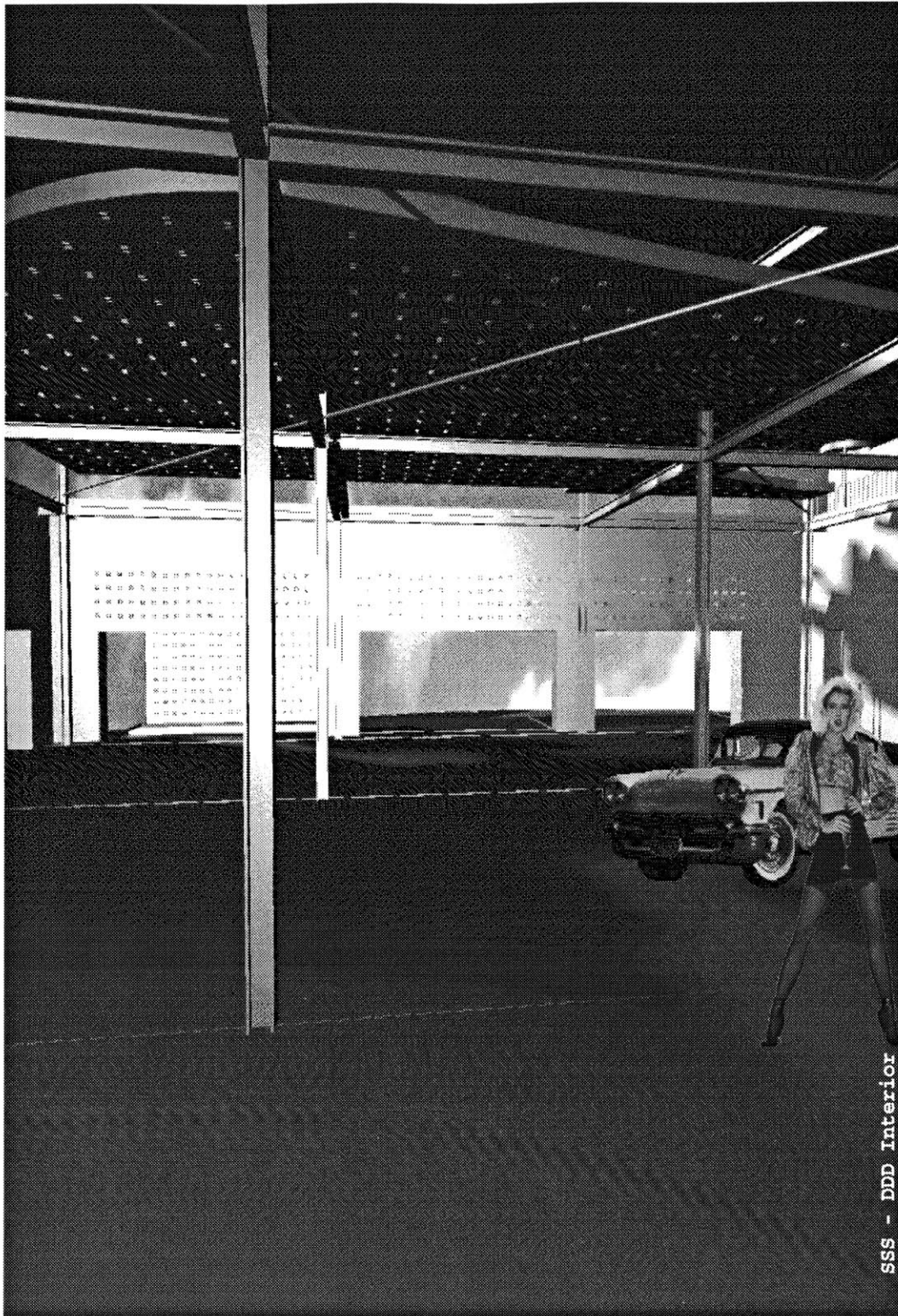




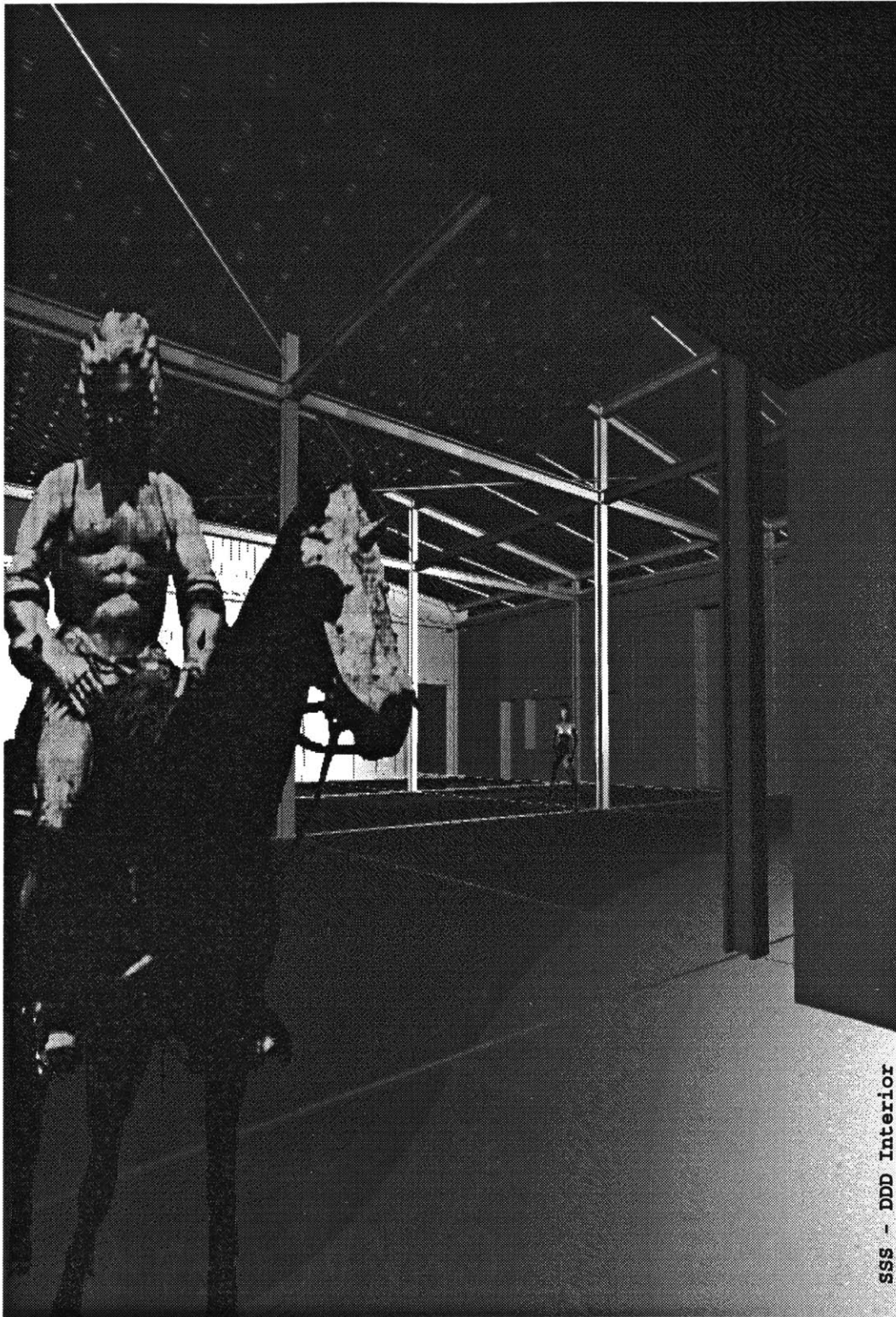


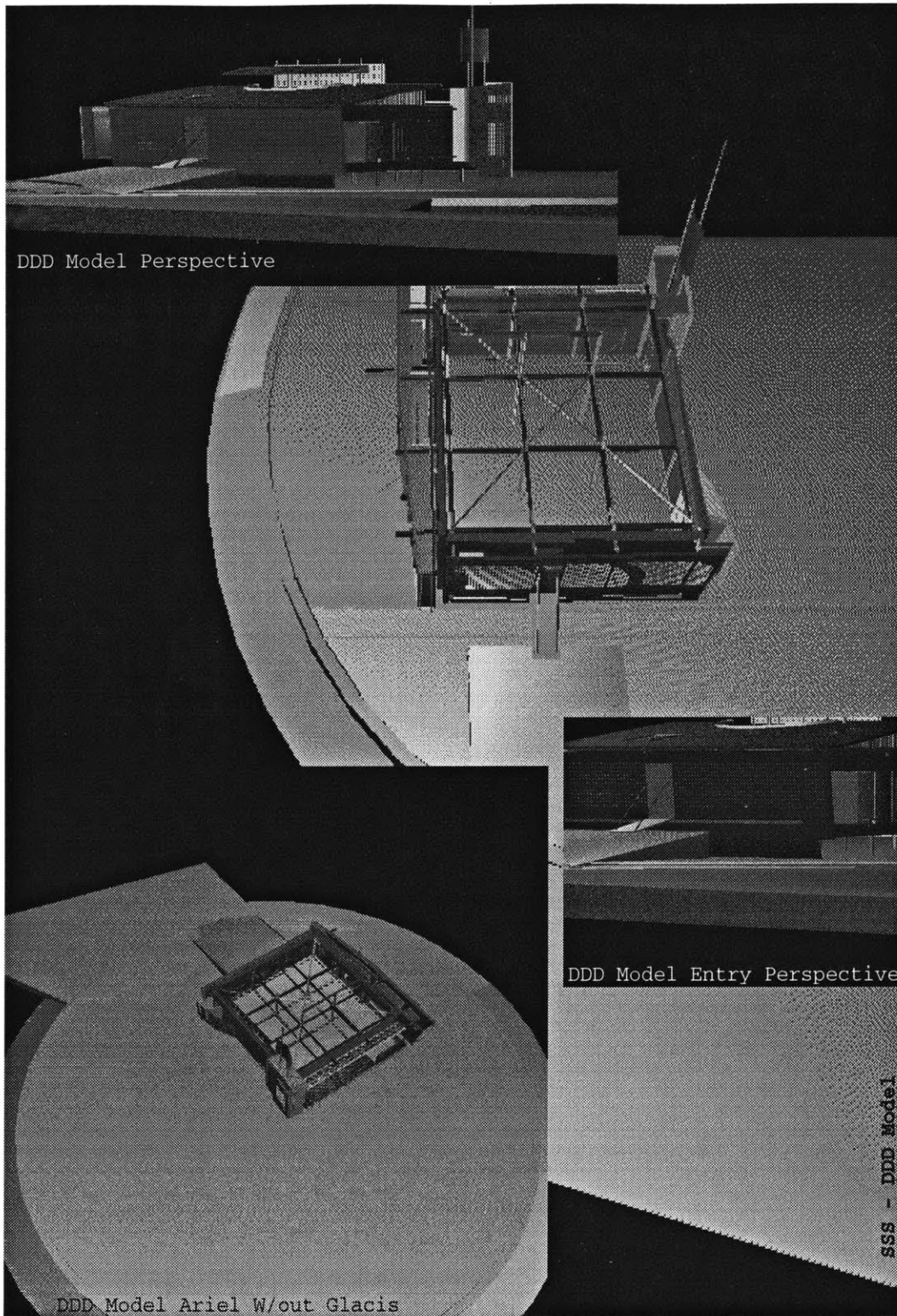


SSS - DDD Interior

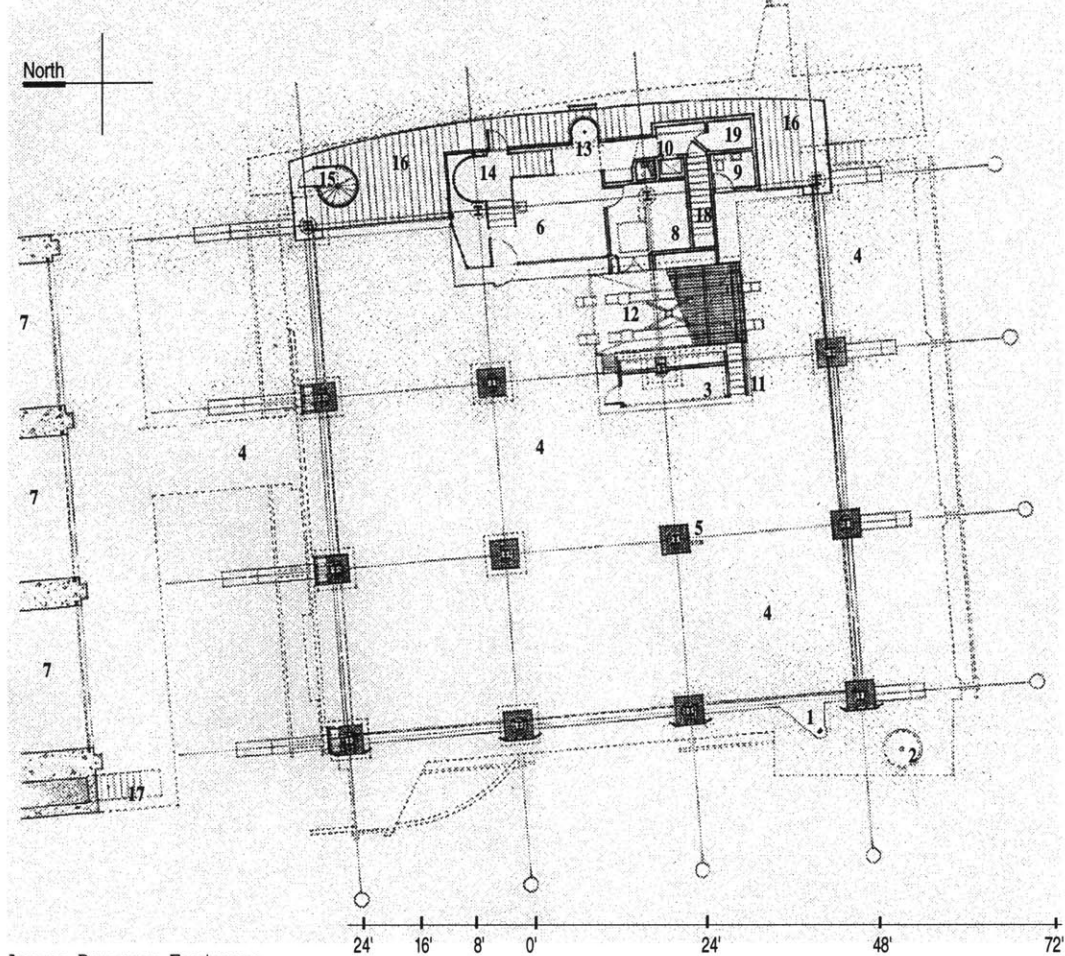


SSS - DDD Interior





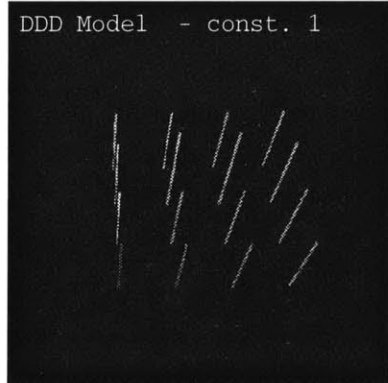
SSS Plan Apron



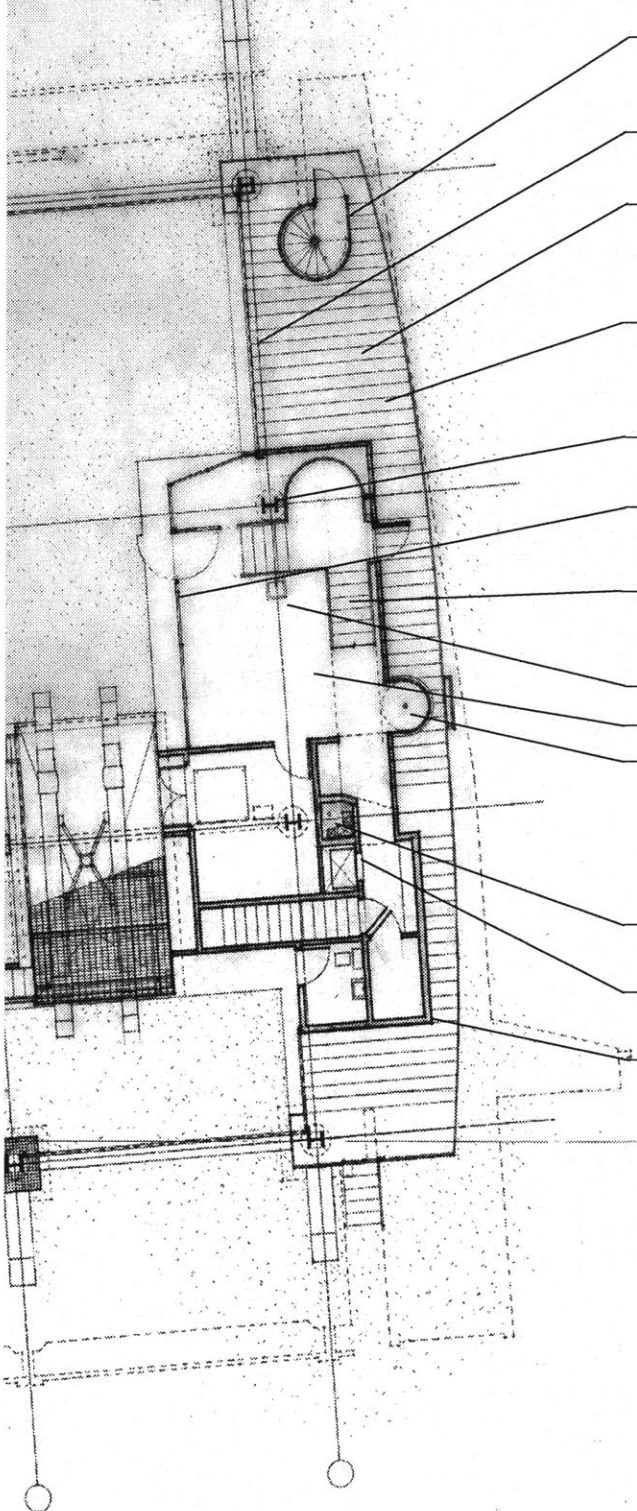
Apron Program Features

- 1 Bastion Center Receiver
- 2 Stair Platform
- 3 Storage Shed
- 4 Apron/Bastion Floor
- 5 Access Ladder to above
- 6 Entry Lobby Area
- 7 Storage Garage
- 8 Auto Work Shop
- 9 Toilet
- 10 Service Lift
- 11 Stair down to pit below Auto Lift
- 12 Auto Service Lift with Cover Grate Above
- 13 Sliding Pole
- 14 Stair To Hull 1
- 15 Stair up to Studio Shop
- 16 Apron Deck
- 17 Stair up to Entry Ramp
- 18 Stair to Mechanical Below
- 19 Electrical

DDD Model - const. 1



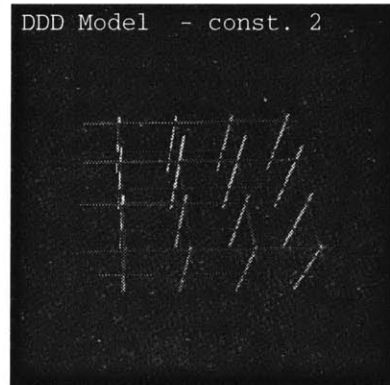
SSS Plan Apron Detail



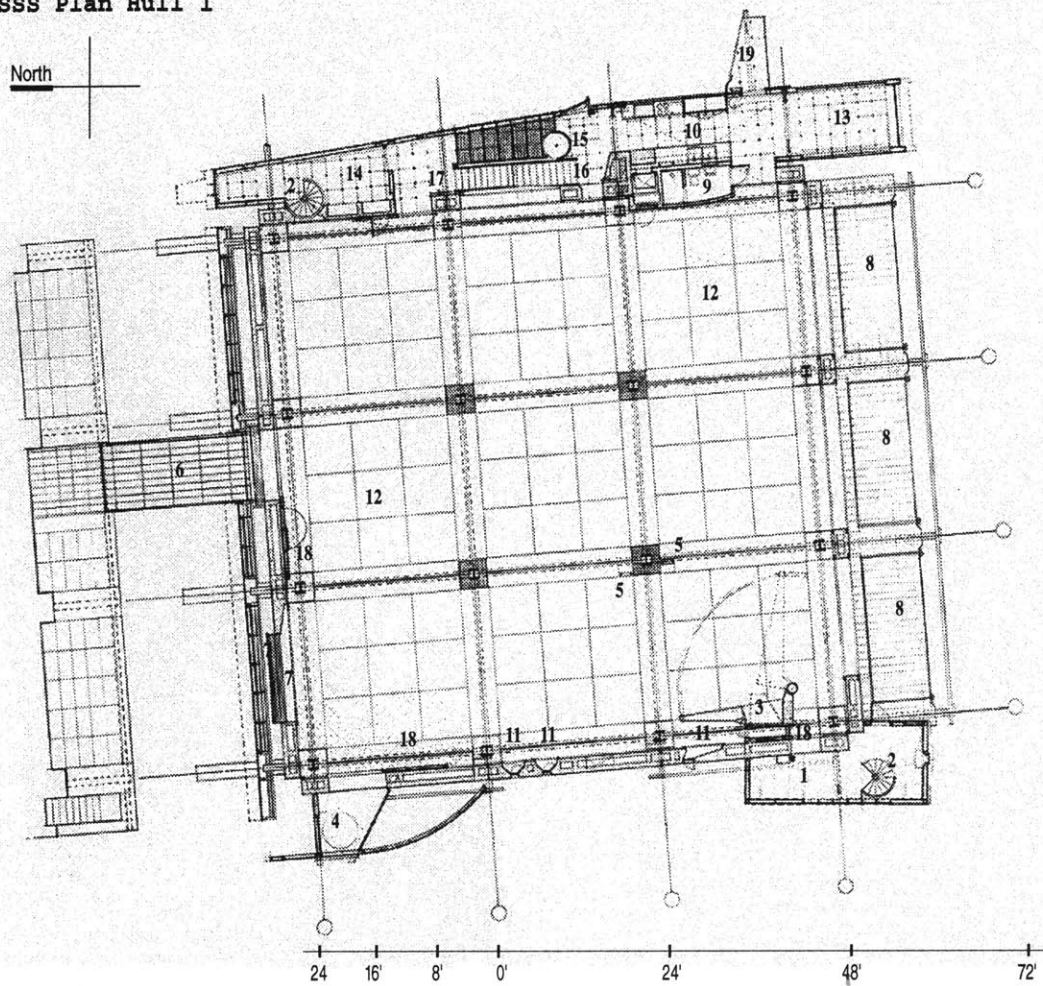
Construction Details

- Stair: 5' circular steel stair with steel hand rail encased with 1/8" steel skin on 2 x 2 tees
- Shutter Track: rolling metal shutters within hull floor
- Apron Deck: 1' wide 1/4" steel plank raised floor on 8" channels. 3' off bastion floor w/rail only at sliding pole enclosure
- Entry Wall: 1/8" steel perforated skin on 3" tees, with clear/tempered dbl.pane
- Frame Supports: W12 column attached to apron foundations
- Lobby Wall: clear/tempered dbl. pane within steel mullions
- Stair: 1/4 perforated folded steel plate on 8" channels w/ steel hand rails
- Lobby Sink: freestanding
- 8" conc lobby floor
- Sliding Pole: 3" fireman's pole attached to flank roof and apron lobby floor, 1/8" steel perforated skin on 1" tees with clear single pane inside
- Mechanical Exhaust Shaft: to mechanical below
- Service Lift: supply storage lift to kitchen
- Wall: 1/8" steel skin on 16 gauge metal studs insulated with 1/8 metal inner wall

DDD Model - const. 2



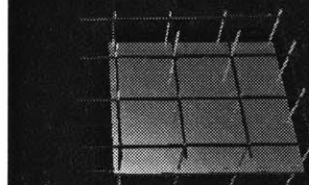
SSS Plan Hull 1



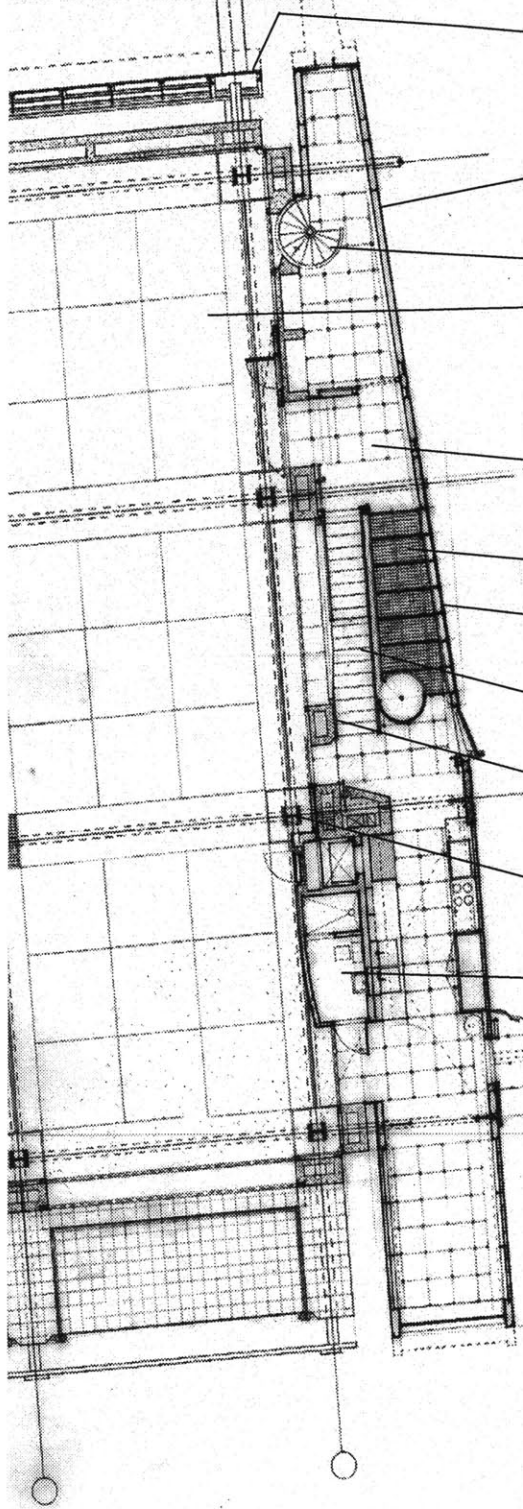
Hull 1 Program Features

- 1 Lookout Surveillance Tower
- 2 Stair to above & below
- 3 Pivoting Fire Enclosure
- 4 Armored Shoulder
- 5 Access Ladders
- 6 Drawbridge
- 7 Facade Bay
- 8 Sun Decks/Shields
- 9 Toilet with Shower
- 10 Kitchen Area
- 11 Vision Slot
- 12 Main Living Area
- 13 Dining Area
- 14 Studio Shop
- 15 Sliding Pole
- 16 Stair to Apron Below
- 17 Stair to Master Bedroom Above
- 18 Sliding Door Wall
- 19 Webber Suicide Bridge

DDD Model - const. 3



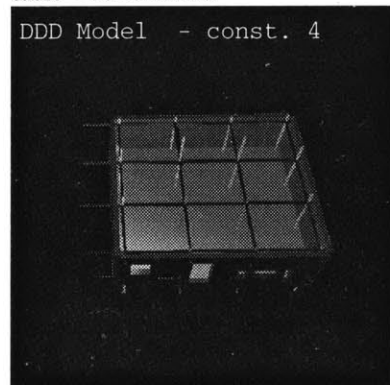
SSS Plan Hull 1 Detail



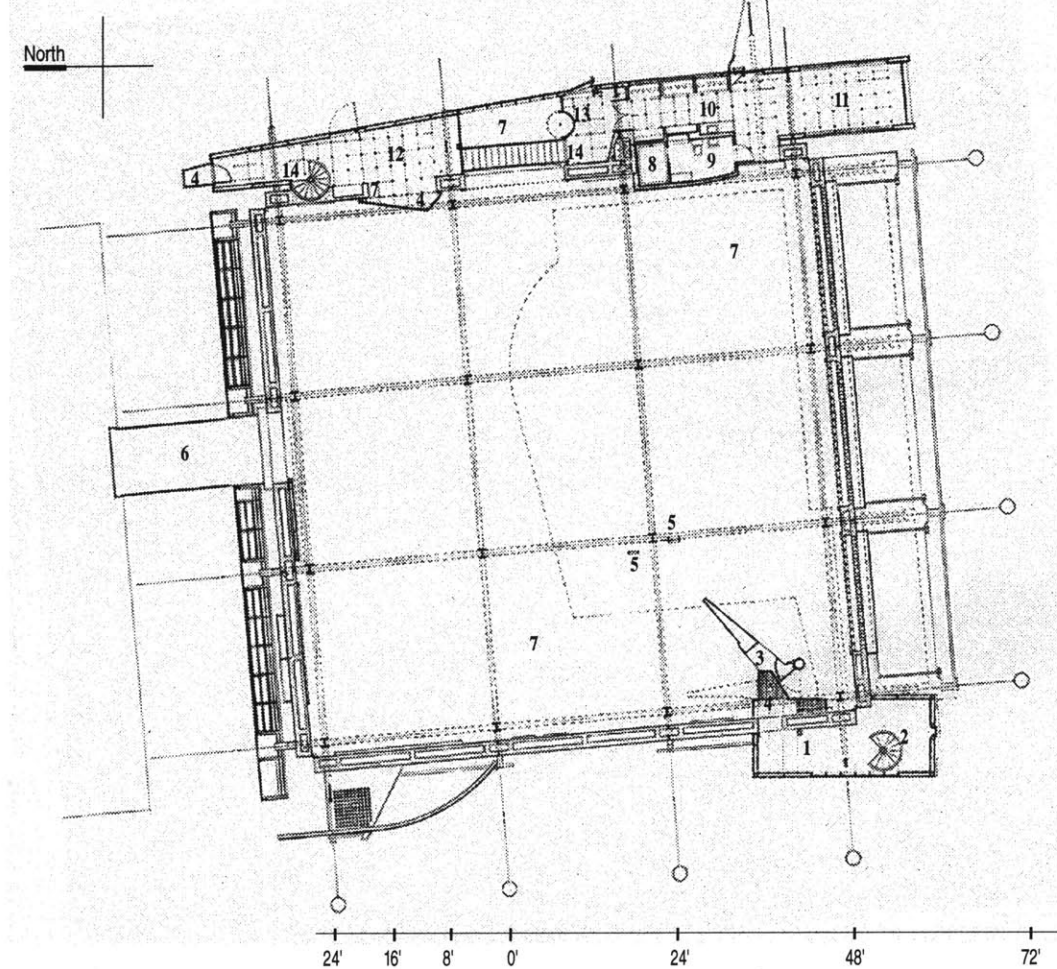
Construction Details

- Face Wall: 1/2" steel plate w/ 3/8" perforated insets on 8" channels and 2 x 5 angles attached to structural frame
- Flank Wall: 1/4" steel plate outer skin on 2 x 5 channels insulated with thermal break w/ 1/8" steel plate inner skin
- Stair: 5' circular steel stair
- Hull Floor: 6' 8" x 6' 8" pannels of 4" cast conc. floor raised w/radiant heating on and service access on 10" structural conc. floor on W14 beams with 2' under floor and 1/8" steel belly skin
- Flank Floor: 2' x 2' rubber tiles on raised floor on 5" conc. floor on steel decking
- Floor Vent: steel floor grill w/ vent below
- Wall/window Grate: 1' 6" clear/ tempered dbl. pane set within steel mullions, attached to 4" tee grid
- Stair: 1/4 perforated folded steel plate on 8" channels w/ steel hand rails
- Inner Wall: 24" autoclave precast conc. hollow core - 8" outer, 4" inner attached to structural frame
- Frame Supports: W12 column attached to apron foundations
- Bath: 1/8" steel skin on 16 gauge metal studs sound insulated with 1/8" porclin inner skin
- Webber Bridge: 1/4" steel plate on 8" channels attached to W10 beamw/ cable - no handrails

DDD Model - const. 4

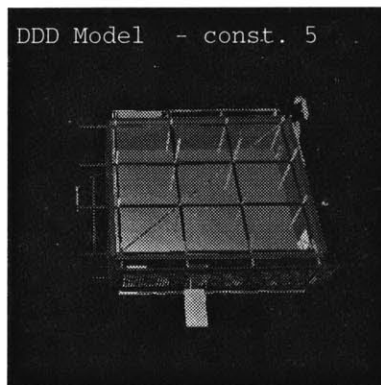


SSS Plan Hull 2

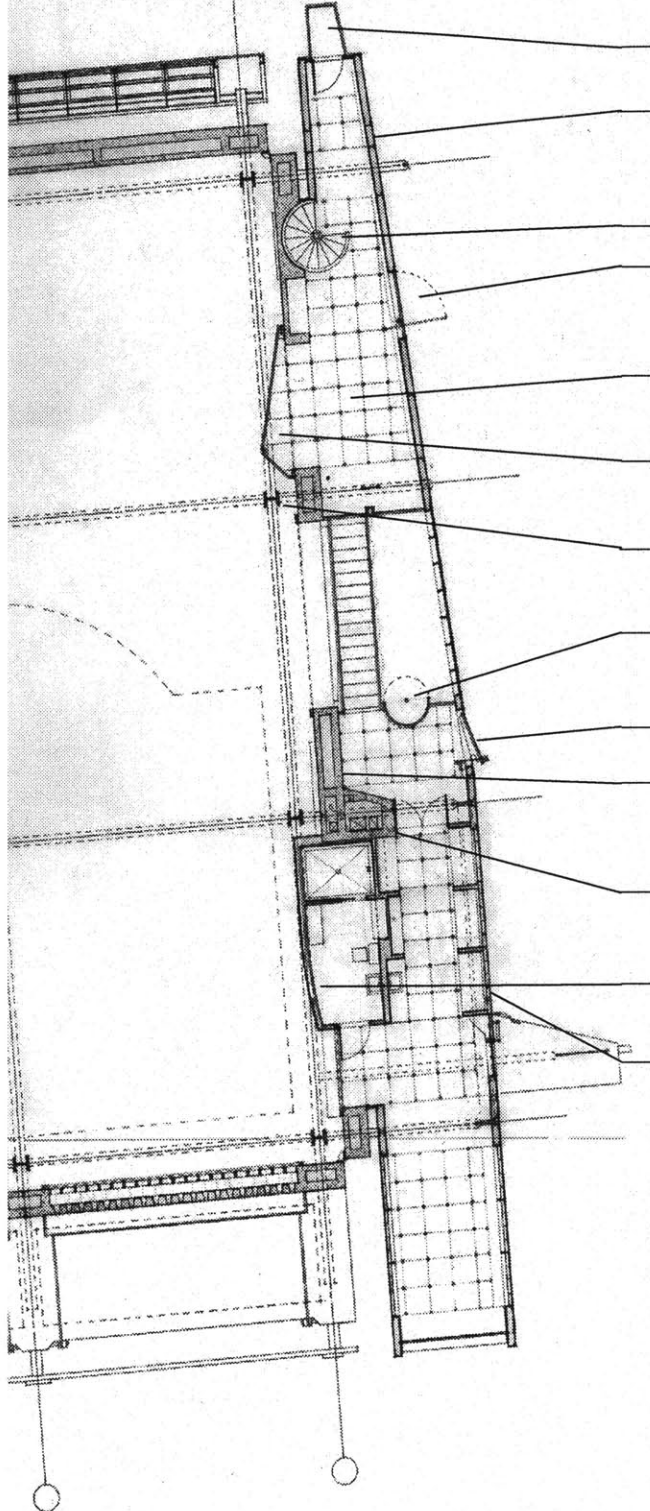


Hull 2 Program Features

- 1 Lookout Surveillance Tower
- 2 Stair to Tower top & below
- 3 Pivoting Fire Enclosure Below
- 4 Viewing Platform
- 5 Access Ladders
- 6 Drawbridge Below
- 7 Open to Below
- 8 Shower
- 9 Toilet
- 10 Dressing Area
- 11 Master Bedroom Area
- 12 Studio Area
- 13 Sliding Pole
- 14 Stair To Hull 1



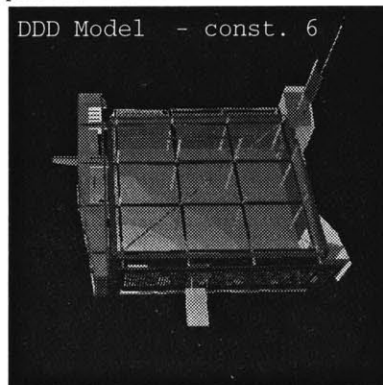
SSS Plan Hull 2 Detail



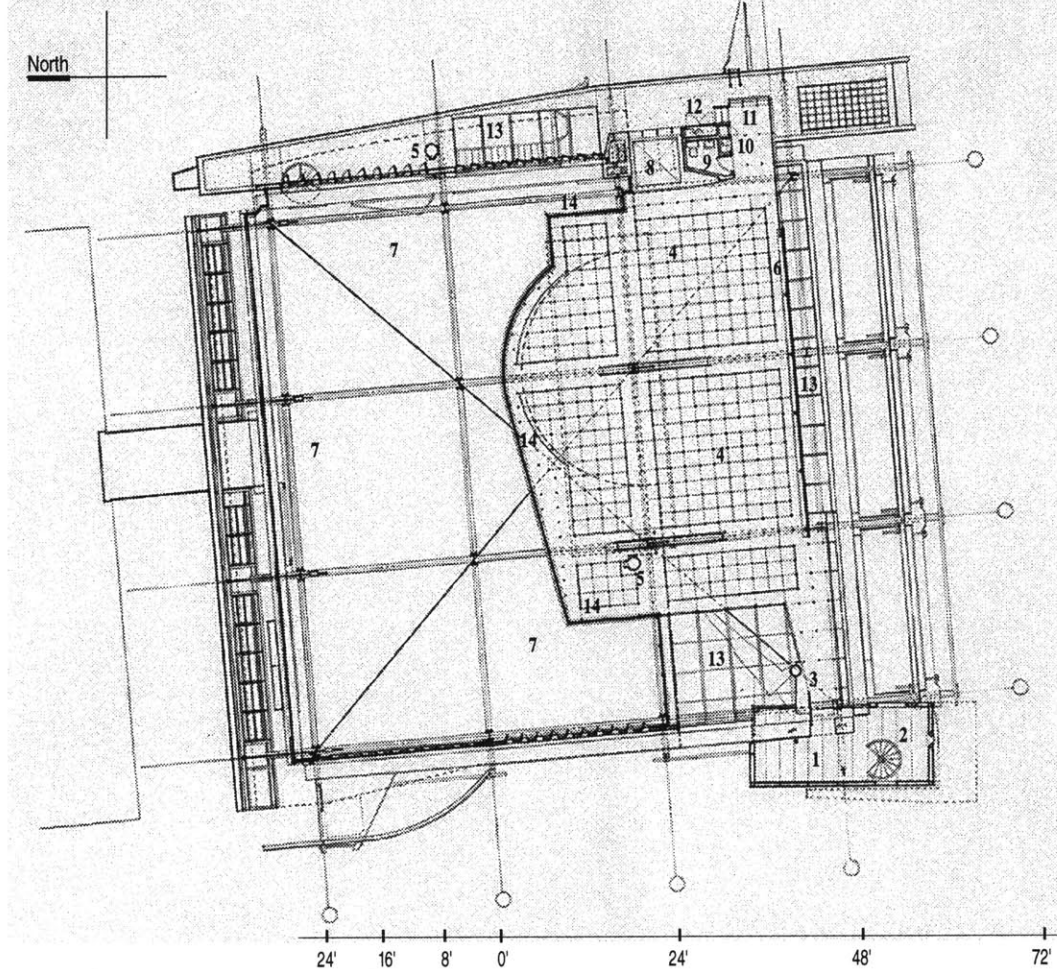
Construction Details

- Studio Deck: steel deck grill with steel supports and rail
- Flank Wall: 1/4" steel plate outer skin on 2 x 5 channels insulated with thermal break w/ 1/8" steel plate inner skin
- Stair: 5' circular steel stair
- Pivot Hatch Window: 1/4" perforated skin attached to clear/tempered dbl. pane set within steel frame, attached to steel pivot arm
- Floor: 2' x 2' rubber tiles on raised floor on 5" conc. floor on steel decking
- Studio Deck: floor extends from studio connected by 1/2" steel rod from frame above
- Frame Supports: W12 column with 10" channel extensions connecting to glaxis support beams
- Sliding Pole: 3" fireman's pole attached to flank roof and apron lobby floor
- Air Vent: 3' wall operable vent with 1/4" steel skin
- Inner Wall: 24" autoclave precast conc. hollow core - 8" outer, 4" inner attached to structural frame at top and bottom
- Mechanical Exhaust Shaft: autoclave precast w/ expansion joint at lateral col. line
- Bath: 1/8" steel skin on 16 gauge metal studs sound insulated with 1/8" porclin inner skin
- Dressing Wall: 1/8" perforated steel skin on 3" tees w/ translucent dbl. pane and insulation curtain

DDD Model - const. 6

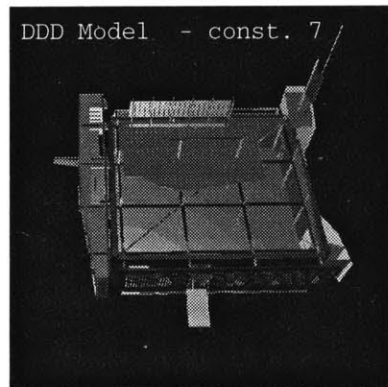


SSS Plan Glacis

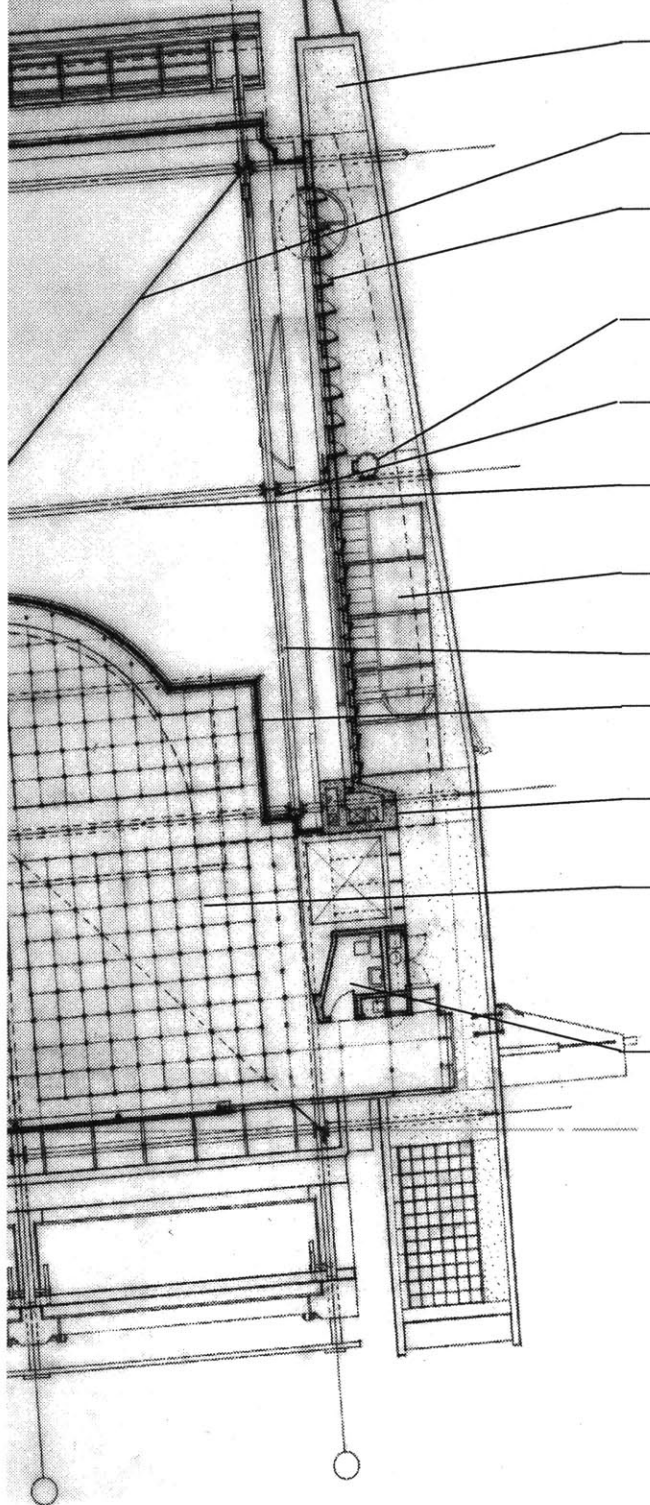


Glacis Level Program Features

- 1 Lookout Surveillance Tower
- 2 Stair to Tower top & below
- 3 Barbecue
- 4 Top Deck
- 5 Access Hatch
- 6 Electronic Billboard
- 7 Open to Below
- 8 Hot Tub/Jacuzzi
- 9 Toilet
- 10 Bar, Refrigerator
- 11 Deck Lookout, Flank access
- 12 Mechanical
- 13 Skylight Below
- 14 Glass Clerestory

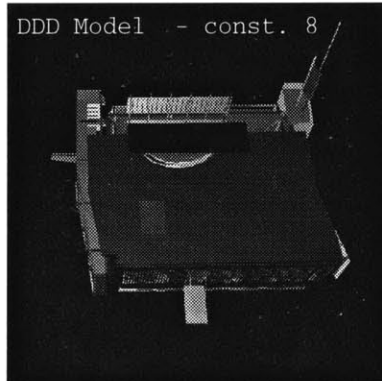


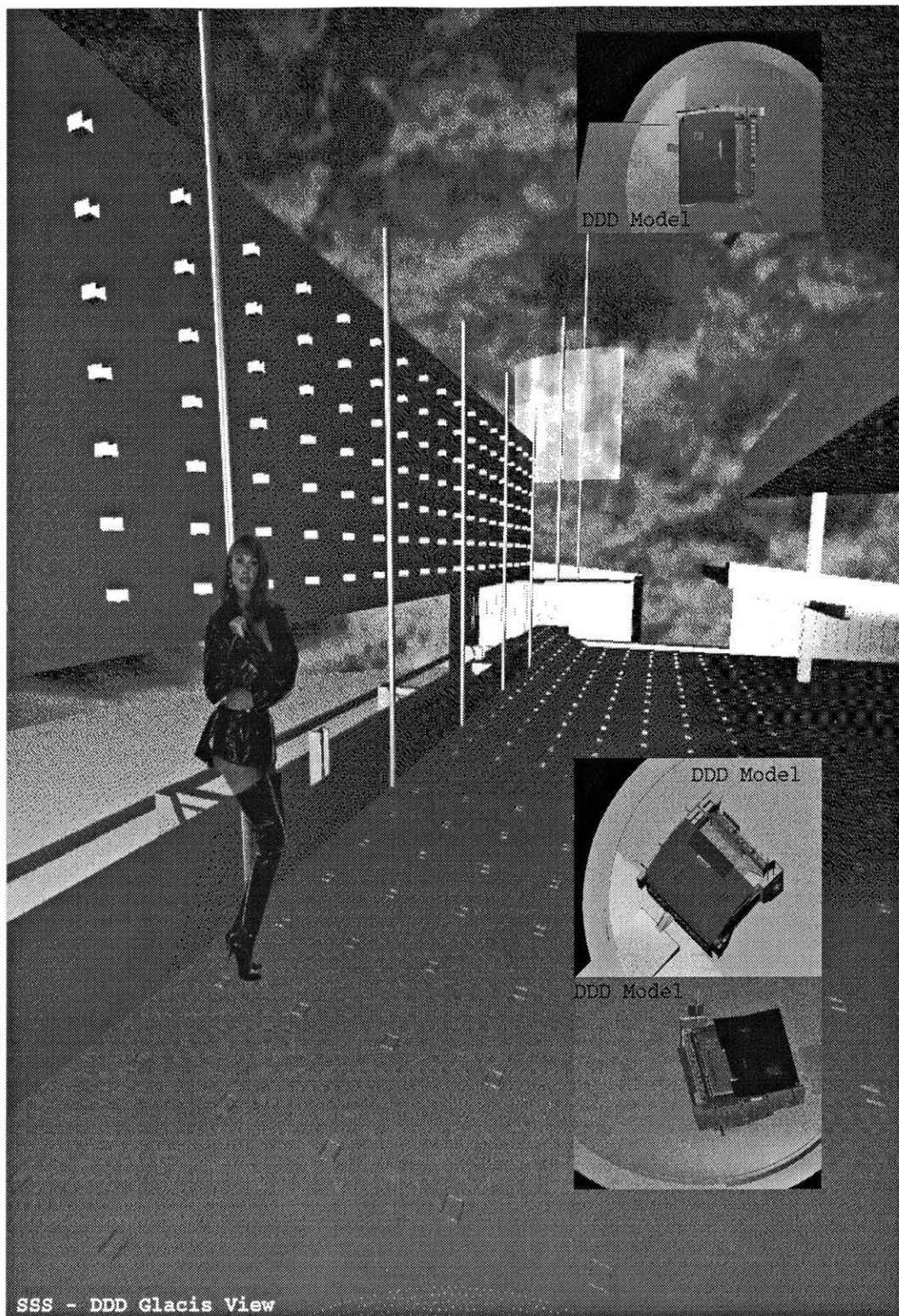
SSS Plan Glacis Detail



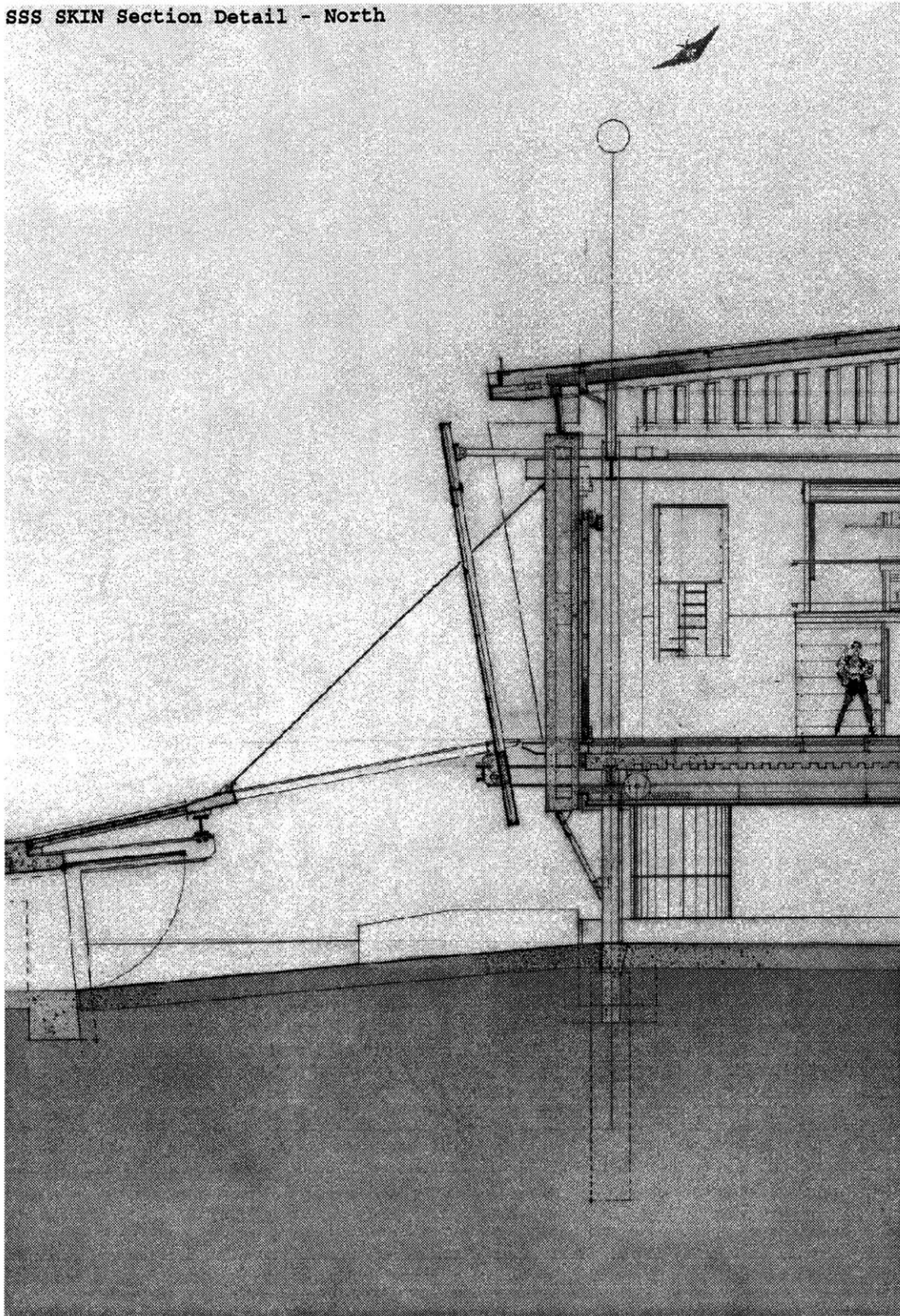
Construction Details

- Flank Roof: gravel fill on built up roofing on metal decking w/ elastomeric weatherproofing
- Diagonal Bracing: 1/2" steel cable at top of structural frame
- Vent Louvers: operable glass single pane set within aluminum sash mullions in 1/8" steel skin wall on 14 gauge metal studs
- Access Hatch: steel ship hatch sealed and raised 12" w/ ladder to studio below
- Glacis Supports: W12 column with 10" channel extensions connecting to glacis support beams
- Top Frame Lateral: W10 beam bolted to column flange with expansion connection
- Skylights: clear/tempered dbl. pane set within aluminum mullions, raised 14" above roof
- Top Frame Axial: W14 beam bolted to column web
- Clerestory: clear/tempered dbl. pane set within steel mullions attached to deck and glacis
- Mechanical Exhaust Shaft: autoclave precast w/ expansion joint at lateral col. line
- Deck: 2' x 2' perforated 1/4" steel panels on 2 x 4 steel angles on 6" secondary support beams with translucent dbl. pane skylighting within beams attached to structural frame
- Toilet Wall: 1/8" steel skin on 14 gauge metal studs insulated

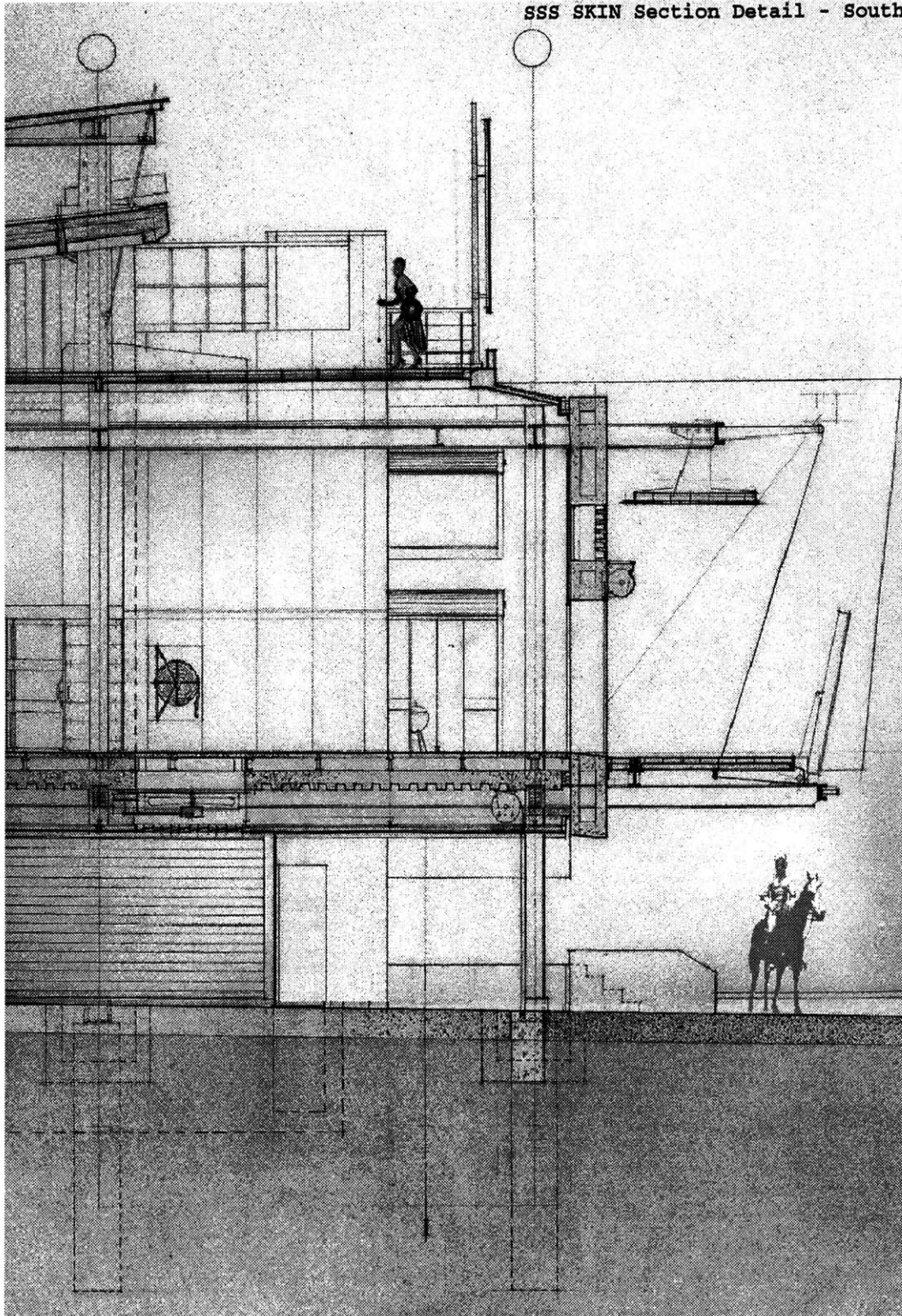


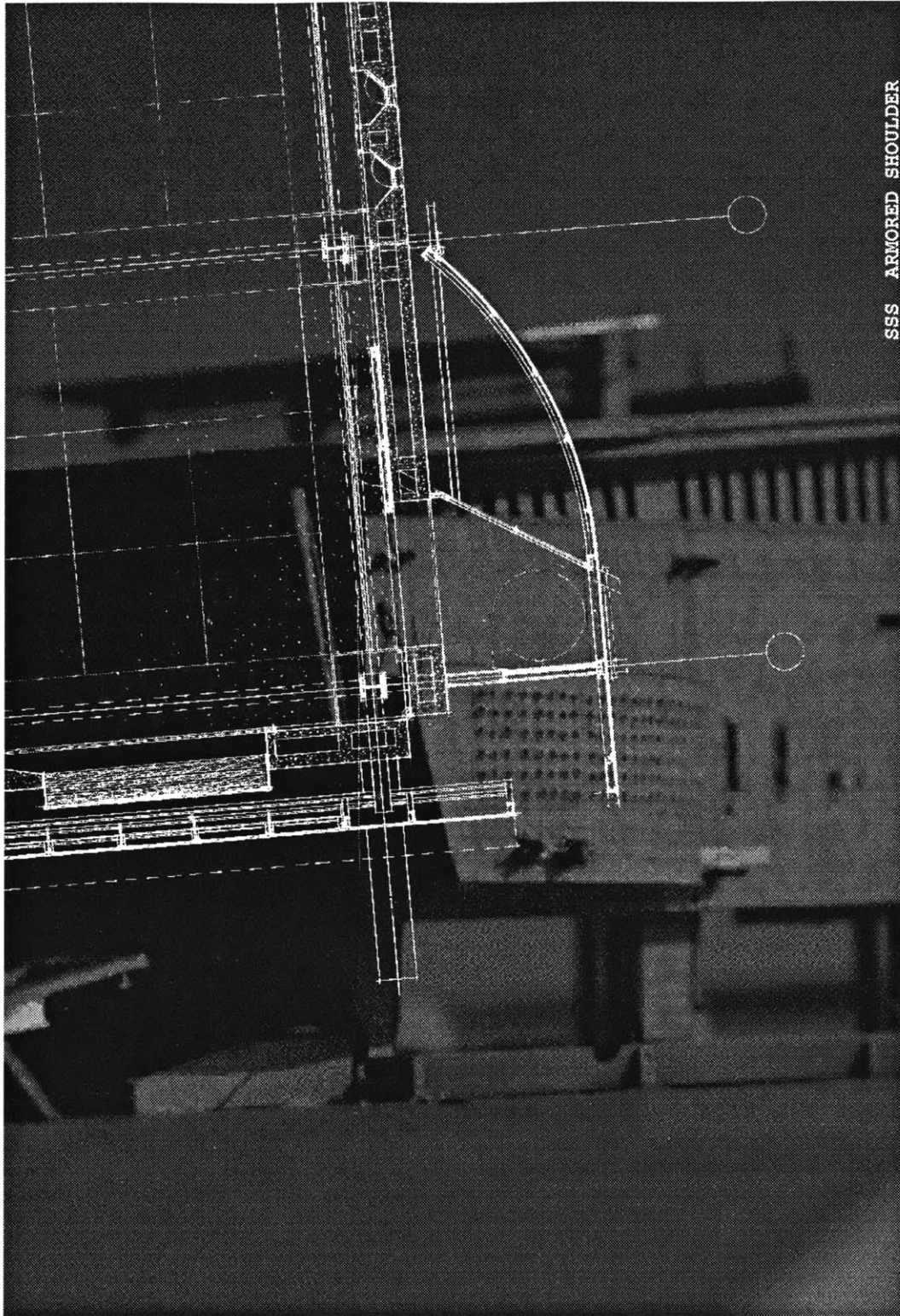


SSS SKIN Section Detail - North

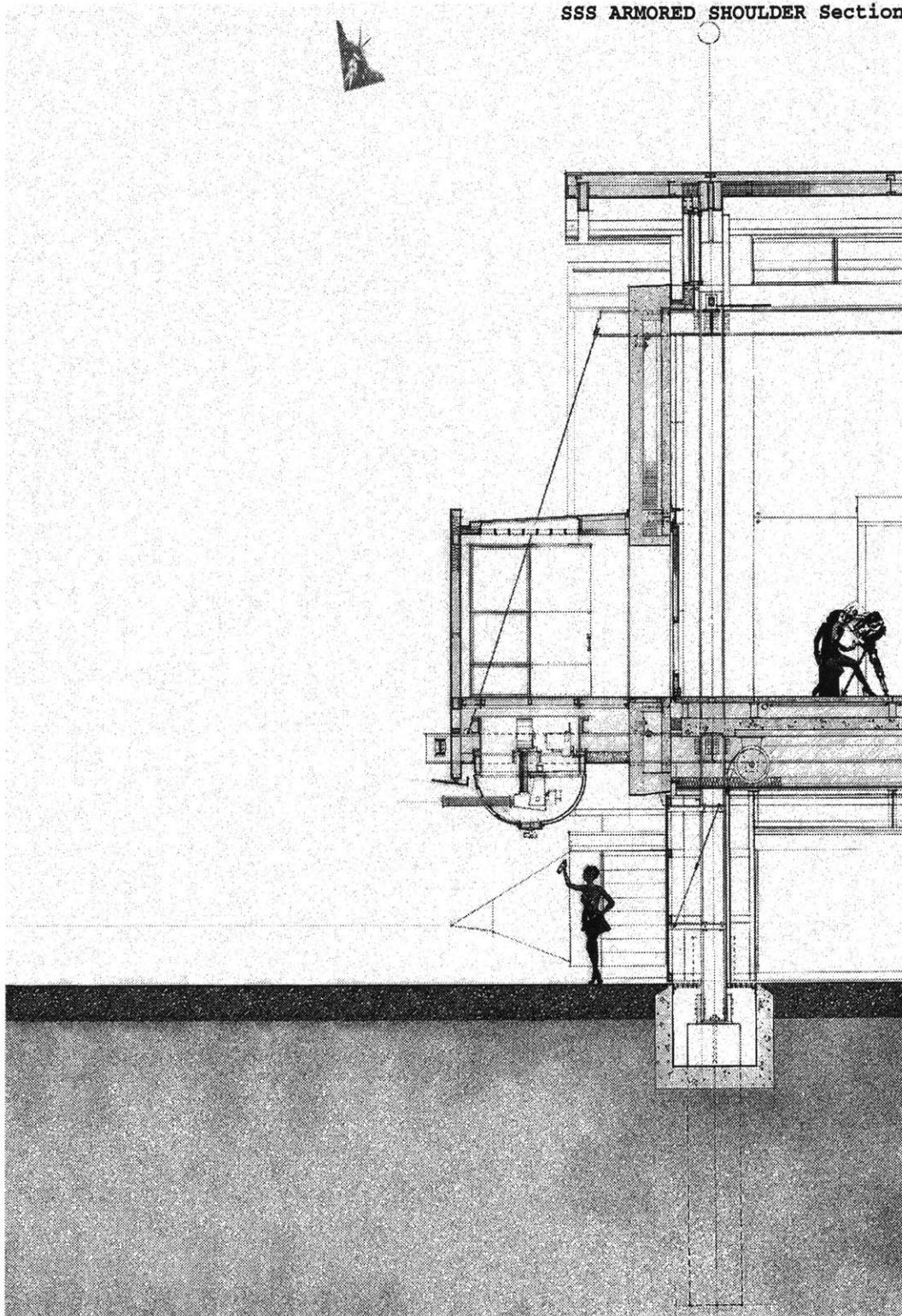


SSS SKIN Section Detail - South

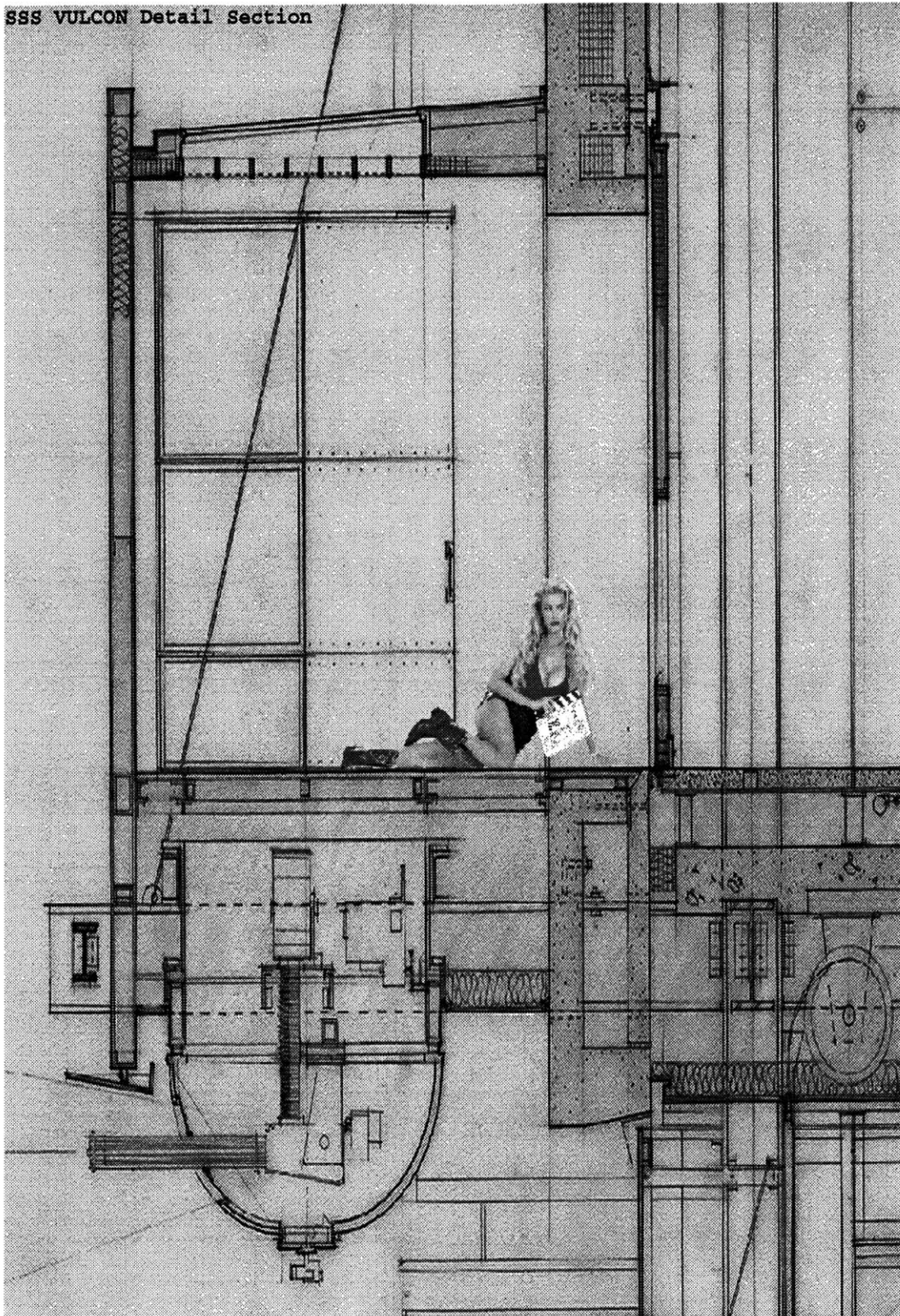




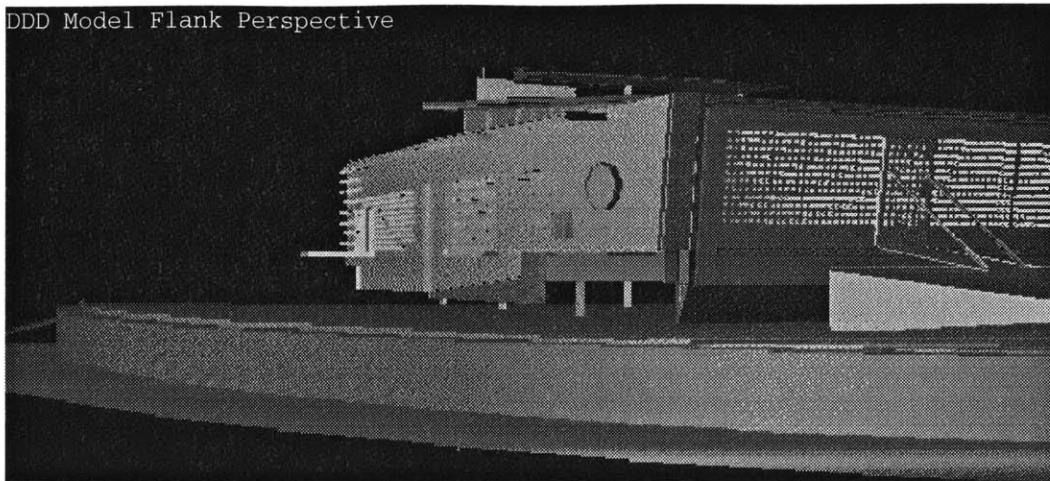
SSS ARMORED SHOULDER Section



SSS VULCON Detail Section



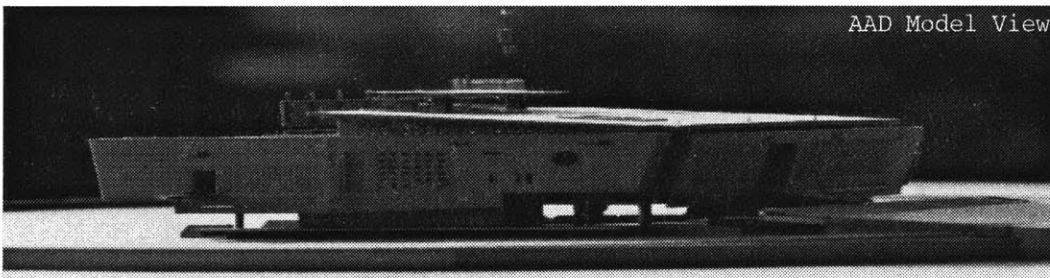
DDD Model Flank Perspective



Vehicular Specification

Apron Base:	80 feet
Curb Weight:	187 tons
Length:	98 feet 6 inches
Width:	90 feet 2 inches
Height Glacis:	46 feet 6 inches
Height Wing:	56 feet 4 inches
Ground Clearance:	8 feet 8 inches
Area Displacement:	7,900 sf
Cubic Displacement:	156,960 cf
Speed:	Static
Cruising Range:	Global
Power:	4 - 200 ghz, 1 - 429ci cobra jet
Alt. Energy Generation:	4 - wind turbines, 30 active solar panels, entropic waste to energy processor, 3 in ground heat pumps
Water Reclamation:	Processed - ultraviolet screened carbon absorption
AI Building System:	Environmental controls, fortification doors and shutters lighting systems, security sensors, voice recognition, personality female
Communication System:	Silicon graphics server, Global port telecommunications system
Skin:	Internal - Autoclave precast conc. 24 inches External - Steel Plate 1/4" - 3/4"
Surveillance System:	Video monitored, electronic perimeter sensory
Armament:	1- 20mm Vulcon attack cannon "auto" 5 - 50 caliber aircraft machine guns 2 - Surface to Air missile emplacements

AAD Model View



BibliographicText

- The Age of Intelligent Machines, MIT Press 1990, Raymond Kurzweil
- American Automobile Design 1930-1980, Louis Webber 1985, Dick Nesbit
- Arms and Armor, Grosset & Dunlap 1971, Frederick Wilkinson
- autobody, repairing and repainting, Chas. A. Bennett Co. Inc. 1977, Lester G. Dunenk
- The Automobile Revolution, the impact of an industry, Chappel Hill Press, 1982, James M. Laux
- Disappearing Through The Skylight, Viking Press 1989, O. B. Hardison, Jr.
- Eyewitness Books, Arms & Armor, Alfred A. Knopf 1988, Michele Byam
- Eyewitness Books, Car, Alfred A. Knopf 1990, Richard Sutton
- Fins & Chrome, Bison Books Ltd. 1982, John E. DeWard
- Flight Through the Ages, Thomas Y. Crowell Co. 1974, C. H. Gibbs-Smith
- Jane's Armour and Artillery 1991-92, Jane's Defense Data, 12th edition, Christopher F. Foster
- Looking Back at the End of the World, Semiotext(e), Foreign Agents Series 1986, Paul Virilio
- The Macmillan Visual Dictionary, Macmillan Publishing Co. 1992, Jean-Claude Corbeil
- The Origin of Consciousness in the Break-Down of the Bicameral Mind, Houghton Mifflin Co. 1990, Julian Jaynes
- Panzer Commander, the memoirs of colonel Hans Van Luck, Dell 1989, Hans Von Luck
- Sarajevo, a portrait of the siege, Warner Books, Inc. 1994, Matthew Naythons
- Siege Warfare, Routledge & Kegan Paul Ltd. 1979, Christopher Duffy
- Theory of Land Locomotion, the mechanics of vehicle mobility, University of Michigan Press 1956, M. G. Bekker
- The Troubled Dream of the Flying Wing, Invention & Technology-Winter 1994Vol.9/No.3, T. A. Heppenheimer
- Ward's Automotive Yearbook 19th edition, Ward's Reports, Inc. 1957
- Wheel Estate, Oxford University Press 1991, Allen D. Wallis

BibilographicImages

1. a4A/Architects Asylum,1993, by author
2. General Dynamics, Land Systems Division
3. The Audubon Society Field Guide to North American Seashore Creatures, Alfred A Knopf, 1981, Norman A. Meinkoth, plate 631
4. Leonardo Da Vinci, the anatomy of man, Bullfinch Press 1992, Martin Clayton ,p126
5. *Excalibur*, 1980
6. Photo by owner Damon Davis, 1980
7. Star Wars: from concept to collectible, Chronicle Books, 1992, Stephen J. Sansweet, p19
8. Airshow, Paper Tiger, 1989, Philip Castle, p98
9. Airshow, Paper Tiger, 1989, Philip Castle, p67
10. Secret Magazine, May 1994, issue 6
11. Penthouse, July 1992, 124
12. CompactDisc 1980, cover photo, Bernard Pierre Wolfe

Epitaphic

I dead-icate this thesis to the memory of past experiences, good and bad, of friends and family that are rotting as corpses this very minute; and for every time any individual turns to this page and begins to read this sentence. They lay as static vehicles clothed in the armored skin of the casket; entombed by a burial vault; surrounded by the silence

